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VICTORIA



FIFTY-FIRST REPORT

OF THE

COMMISSION OF PUBLIC HEALTH

FOR THE

YEAR ENDED 30<sup>TH</sup> JUNE, 1973

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PRESENTED TO BOTH HOUSES OF PARLIAMENT PURSUANT TO SECTION 23 (3)  
OF THE HEALTH ACT 1958  
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*By Authority:*  
C. H. RIXON, GOVERNMENT PRINTER, MELBOURNE

No. 21.—9462/73.—PRICE 60 cents



## COMMISSION OF PUBLIC HEALTH

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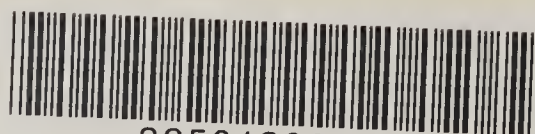
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## FIFTY-FIRST REPORT OF THE COMMISSION OF PUBLIC HEALTH 1972-73

*To the Honorable Alan Henry Scanlan, M.L.A.*

SIR,

We have the honour to submit, in accordance with Section 23 (3) of the *Health Act* 1958, our report for the year ended 30th June, 1973.

In the report of the Commission for 1971-72 reference was made to the increasing concern for higher standards of environmental control and to one particular environmental problem which had required increasing attention—that of mercury contamination of fish.

The collaborative study which had begun that year of a detailed investigation of mercury levels in the shark catch has continued and has been extended to other fish species.

Also, under the sponsorship of the National Health and Medical Research Council and in collaboration with the Department of Health, a research programme was commenced by the University of Melbourne Department of Medicine at St. Vincents Hospital led by Professor D. G. Penington into the possible effects of the consumption of mercury in fish on the health of selected groups of the Victorian population.

Because of the severe central-nervous system damage sensitivity of the foetus and chromosome breakage in lymphocytes attributable to organo-mercury compounds this research is obviously of considerable importance to the health of the public. Other heavy metals, particularly cadmium, have also been under study because their presence in food chain may represent a hazard to the community.

The contamination of the environment by heavy metals is a prime example of the interdependence of natural systems and living things including man and of the Commission's continuing involvement in environmental issues.

During the year environmental pollution control was assumed by the Environment Protection Authority in the terms of the Environment Protection Act. As part of this rearrangement the administration of the Clean Air Act was transferred from the Commission to the Environment Protection Authority in December, 1972. However, delegation from the Environment Protection Authority over Solid Waste Management (except in the Latrobe Valley) was accepted by the Commission and a special staff recruited to deal with the administrative procedures made necessary.

Under the Environment Protection Act the Commission of Public Health has an overriding power of veto in respect of any application or any licence issued where the Commission considers that the public health is likely to be endangered and this is involving medical and engineering officers in reviewing all licence applications made to all agencies of the Environment Protection Authority. In order to co-ordinate this work a Senior Medical Officer was promoted to the position of Senior District Health Officer (Environmental Health) and further specialist and administrative staff will be required possibly leading to the formation of an Environmental Health Unit.

Because of the increasing emphasis being placed on water conservation the Government approved a visit overseas of a team of three senior officers from the Department of Health, the State Rivers and Water Supply Commission and the Melbourne and Metropolitan Board of Works to study the re-use of water in a number of countries. The Assistant Chief Health Officer (Public Health) represented the Department in this investigation.

### FLUORIDATION OF PUBLIC WATER SUPPLIES.

The standard of dental health in Victoria is the worst in Australia and is a State calamity. For no good reason, one million children with no control over the situation remain extremely susceptible to dental decay. This serious state of affairs is highlighted by the following results of a survey in a provincial city :—

In the average 14-year-old child, approximately 13 teeth were affected.

Of these, 2 had been extracted, 4 filled and 7 were decayed.

Of the 13 teeth affected, 4 only had received adequate restorative treatment.

Public water supplies in Victoria are naturally deficient in fluoride which is unfortunate for this substance can have a dramatic effect upon the incidence of community dental decay. This has been proved conclusively both in Australia and overseas. Initially, children receive the benefit, but it is now known that these benefits are carried through adult life, with better general health.



The following local examples are proof positive:—

- Bacchus Marsh*—after 10 years of fluoridation, 8-year-old children have their decay rate reduced by 49 per cent., and the percentage of children in this age group who were absolutely decay free, improved from 4 per cent. to 29 per cent.
- Canberra*—after 6 years of fluoridation, 6-year-old children had a reduction of 66·3 per cent. in decay incidence.
- Tamworth*—after 8½ years of fluoridation, 6-year-old children had 5·7 teeth requiring attention, compared with 12·4 teeth in the same age group before fluoridation was introduced.

Although the fluoridation of public water supplies is still a political question with opposition stemming from an organized minority, there is no known case with substantiating evidence indicating harm to medical health from fluoridated water at 1 part per million. At the present time, more than 130 million people benefit from fluoridated water throughout the world. Unequivocal and consistent support is given by all major authorities, local and overseas, including—

- National Health and Medical Research Council.
- World Health Organisation.
- Tasmanian and New Zealand Royal Commissions.
- Australian Medical and Dental Associations.

The Commission of Public Health reiterates a number of previous recommendations that fluoridation is a safe and effective measure to assist in the prevention of dental caries in the community.

EPIDEMIOLOGICAL AND INFECTIOUS DISEASES REPORT.

TUBERCULOSIS.

Introduction.

The decline in active tuberculosis seen in recent years continued during 1972. There were 371 new notifications reported compared with 416 in 1971, giving a tuberculosis notification rate per 100,000 Victorian population of 10·37. The estimated population at the end of December was 3,577,800. Reactivations of tuberculosis continue to occur and in 1972 there were 42 persons with reactivation of their tuberculosis compared with 23 the previous year. The majority of these patients had not previously received any anti-tuberculosis chemotherapy or had had inadequate chemotherapy as judged by today's standards, and their lesions had been stable for at least fifteen years.

Year.					Active Cases.				
					New.	Rate per 100,000.	Reactivated.	Chronic.	Total.
1964	..	..	..	..	820	25·93	72	86	978
1965	..	..	..	..	790	24·50	84	66	940
1966	..	..	..	..	649	19·98	78	59	786
1967	..	..	..	..	599	18·13	80	49	728
1968	..	..	..	..	535	15·94	57	38	630
1969	..	..	..	..	497	14·50	44	38	579
1970	..	..	..	..	421	12·11	61	33	515
1971	..	..	..	..	416	11·78	23	19	458
1972	..	..	..	..	371	10·37	42	15	428

The three main sources for notification of the new cases were public hospitals (26 per cent.), private medical practitioners (23 per cent.) and departmental sources (44 per cent.). This latter includes mass X-ray surveys (26 per cent.) and clinics (18 per cent.).

Analysis of the figures highlights groups where the decline of tuberculosis is not so marked, e.g., those with extra-pulmonary tuberculosis (19·4 per cent.), and those born outside Australia (43·4 per cent.). To some degree these two groups augment each other, as the incidence of extra-pulomary tuberculosis is considerably higher amongst those born outside Australia.

The improved situation is also illustrated by figures reported from two regional centres—Northern Health Area (Bendigo Bureau) and Northern Suburbs.

Northern Health Area (Bendigo Bureau). (Rural—Population 170,000.)					Northern Suburbs Chest Clinic. (Metropolitan—Population 485,000.)				
Year.					Year.				
Yearly Average New Notifications.					Active Cases.				
1931-40	..	..	..	..	73	1967	..	..	70
1941-50	..	..	..	..	52	1968	..	..	52
1951-60	..	..	..	..	38	1969	..	..	27
1961-70	..	..	..	..	30	1970	..	..	34
1971	..	..	..	..	15	1971	..	..	27
1972	..	..	..	..	11	1972	..	..	21



Whilst the continued decline in active tuberculosis is gratifying, the notifications in 1972 and the fact that tuberculosis remains consistently the third highest on the list for notifiable infectious diseases in Victoria continues to give rise for concern. Tuberculosis will require considerable consistent effort for a good number of years to eliminate it as an actual cause of distress to individuals and a potential threat to public health.

During 1972 tuberculosis services have been reviewed in line with the recommendations of the National Tuberculosis Advisory Council and taking advantage of the improving tuberculosis situation. Some rationalization has been attempted regarding certain groups whose tuberculosis risk is regarded as very low or negligible. Figures from the regional clinics this year indicate a small decline in attendances as a result of this altered programme. The number of attendances was 66,260 in 1972, compared with 73,621 in 1971. This reduction is not large, but when added to the release of institutional beds for other purposes over the years and the proposed modifications in programming for mass X-ray surveys, considerable economies and reduction in staff have been possible as the direct result of the successful tuberculosis programme over the years. However, the large number of persons at greater risk of tuberculosis required to be kept under medical supervision at chest clinics and the low tuberculin reactor rates amongst our school children still emphasize the size of the long-term problem and care required to protect those still uninfected in our population. It certainly will still be necessary to continue such services whilst the present immigration continues and for some time longer.

#### *Notifications.*

Of the 371 new cases of tuberculosis notified, 299 (80·6 per cent.) were pulmonary cases and 72 (19·4 per cent.) were extra-pulmonary. 75 per cent. of all cases were bacteriologically proven, 77 per cent. of the pulmonary and 67 per cent. of the extra-pulmonary. There were 249 males (67 per cent.) and 122 females (33 per cent.).

Bovine-type myco-bacteria were isolated from 1 patient—a man with an inguinal abscess.

There were 6 new cases reported from whom a typical myco-bacteria were isolated.

#### *Age Groups.*

The age distribution is more even amongst adults over 25 but the figure for children under 15 years has dropped to 7 per cent.

29 per cent. of all new cases were 60 years and over.

69 per cent. of all new cases were 35 years and over.

54 per cent. of all new pulmonary cases were males 35 years and over.

49 per cent. of all new pulmonary cases were 50 years and over.

#### *Migrants.*

43·4 per cent. of the year's notifications were from persons born outside Australia, i.e., 161 cases. The 1971 census figure for such persons is 22·8 per cent. of the Victorian population. 29 persons were British and 132 non-British. 29 persons (18 per cent.) were reported within one year of arrival (25 non-British). Of the 72 extra-pulmonary cases reported 41 were born outside Australia and 6 were British, and of 12 with pleural effusion 7 were born outside Australia, all non-British migrants.

#### *Extra-pulmonary Tuberculosis.*

There were 72 notifications of extra-pulmonary tuberculosis. Tuberculosis of the renal and genital organs continues to be the most common with 35 such notifications. There were 9 cases of bone and joint tuberculosis and 2 cases of meningitis. Tuberculosis of lymph glands is still fairly common and usually occurs in children; 19 cases were reported; some of these are due to a typical myco-bacterial infection.

#### *Source of Notification.*

Mass X-ray surveys were responsible for detecting 97 cases with the pulmonary forms. Hospitals notified 96 cases (26 per cent. of the total), private medical practitioners 87 (23·5 per cent.) and State clinics 68 cases (18 per cent.). There were 2 notifications from death certificates.

The routine survey of inmates on entry to Pentridge has revealed one new case during the year, bacteriologically positive, and 3 cases resulted from screening mental hospital patients.

It is noted that patients with symptoms of active tuberculosis continue to present to their doctors or hospitals. The importance of medical personnel in clinical practice continuing to remember the continuing prevalence of tuberculosis cannot be overstressed.

#### *Reactivation.*

Forty-two persons previously notified with tuberculosis whose names had been removed from the case register again became active after at least three years' stability. Twenty-eight were bacteriologically proven at relapse and 3 histologically. Pulmonary relapses occurred in



32 cases and extra-pulmonary in 10. More than half the cases (30) had been stable for 15 years or longer, 21 had no previous chemotherapy and 17 had chemotherapy for less than 2 years. Only 4 on review were considered to have had satisfactory courses of chemotherapy.

#### *Case Register.*

On 31st December, 1972, the case register for active cases listed 2,007 cases, 1,764 with pulmonary and 243 with extra-pulmonary disease. One thousand and sixty-six of the patients on the register were receiving chemotherapy. Five hundred and forty names were removed from the register during the year.

The case register continues to be an important adjunct to tuberculosis control, especially aiding supervision of persons changing their places of living, and those who carry a higher risk of relapse, or risk to others if they relapse (e.g. kindergarten workers, school teachers, etc.) Special lists of names of such people are kept to enable closer supervision.

Appreciation is again acknowledged for the co-operation of the staffs of the Bacteriological Laboratory at the Fairfield Hospital and the Repatriation Department and to many private medical practitioners who supply information in this important work.

#### *"Chronic Positive" Cases.*

A record is maintained of patients who are known to have had active disease with positive bacteriological examinations for twelve months or longer. Names are not removed until negative tests are obtained for a year. At 31st December, 1972, there were 15 "chronic positive" cases, including repatriation cases, 4 less than at December, 1971. Three persons are excreting anonymous-type myco-bacteria. Seven new names were added to the list during the year.

#### *Deaths.*

The figure supplied by the Commonwealth Bureau of Statistics for deaths is not yet available. Records of those having died during the year included only 19 persons who had had evidence of active tuberculosis at death or within the previous six months. The average age at death was 66.9 years.

#### *Tuberculosis Allowances.*

The tuberculosis allowance is a special allowance payable through the Commonwealth Social Service Department and is primarily intended to encourage and enable those with active and infectious or potentially infectious tuberculosis to cease work and accept treatment.

At 31st December, 1972, there were 127 persons being paid the tuberculosis allowance, compared with 91 at the end of 1971. Of these persons, 96 were men and 31 women, 69 were receiving in-patient care and 58 were out-patients. There were 120 (94.5 per cent.) in receipt of the allowance for less than one year, 5 between one and two years and 2 over two years. The average duration of payment of the allowance was 4.9 months for those receiving it for less than a year. Of the 198 persons with allowances cancelled during the year 113 returned to work and 53 transferred to other social service benefits. Five were withdrawn for disciplinary reasons.

#### *Mass X-Ray Surveys.*

The third compulsory chest X-ray for all adults 21 years and over is due to be completed in October, 1973. Twenty-three electorates were surveyed in 1972 and 652,752 miniature X-rays were taken. Ninety-five persons with active tuberculosis (a rate of 0.15 per 1,000 X-rays), 180 cases of cancer in the lung, (a rate of 0.28 per 1,000 X-rays) and 47 cases of sarcoid (a rate of 0.07 per 1,000) were detected by mass X-ray surveys during 1972.

Technical faults from the caravan units were recorded at a rate of 1.15 per 1,000 films. The recall rate from 70 m.m. films was 5.5 per 1,000.

#### *Doctors' Referrals.*

Of persons referred by doctors to the Division of Chest X-ray Surveys for X-ray examination 111 showed pulmonary abnormalities and 4 were found to have active tuberculosis.

#### *Public Hospitals.*

70 m.m. X-ray units are at present installed at St. Vincent's and Preston and Northcote Community Hospitals. 1,889 X-rays were taken and one active case reported.

#### *Pentridge.*

1,973 routine chest X-ray examinations were made of inmates on entry to Pentridge and 2 active cases were found, 1 new and 1 reactivated. Both were infectious. In the 5½ years of operation 22 cases have been located from 13,570 persons examined—rate of 1 active case for every 616 X-rays.



### *Tuberculin Testing—B.C.G. Vaccination.*

Tuberculin testing has continued in schools with pupils above Grade 6, i.e., 12 years old and above. B.C.G. vaccination is offered to the negative reactors. The present programme permits visiting all areas of the State every three years and consent rates for pupils last year were 94 per cent. In all 96,249 pupils were examined over the year yielding a positive reactor rate of 2.9 per cent. 31,341 pupils had been vaccinated in earlier years and of these 88.8 per cent. have positive tuberculin reactions.

### *Rates for School Children.*

Age 12 years 16,643 tested 2.4 per cent. natural reactors : 1971 2.3 per cent.

Age 13 years 17,730 tested 2.8 per cent. natural reactors : 1971 2.3 per cent.

Age 14 years 17,118 tested 3.2 per cent. natural reactors : 1971 3.2 per cent.

### *Post B.C.G. Re-examinations.*

All ages and groups—

(3/12 to 12 years after vaccination) 3,516 tested—84 per cent. +ve : 1971 86 per cent.

Contacts and others—

(3/12 after vaccination) . . . 1,146 tested—94 per cent. +ve : 1971 93 per cent.

In addition “all age” surveys of primary school children were carried out in two city municipalities ; Prahran and Sunshine. In each of these municipalities there is a high migrant content which would reflect higher natural reactor rates. The consent rate was 96 per cent. 12,286 pupils were tested and the natural reactor rate was 1.5 per cent.

Surveys have also been made of various other groups, including contact surveys in schools and a factory—in all 105,146 were examined and 59,028 vaccinations performed during the year.

Four National Service intakes included 4,253 personnel aged 20 and 21 years and yielded a natural reactor rate of 9.5 per cent. The Victorian trainee rate was 9.1 per cent. natural reactors, 89 per cent. had previously been B.C.G. vaccinated, and of these 88.5 per cent. gave positive tuberculin reactions.

### *Bacteriology.*

Reliable bacteriological support is essential in tuberculosis detection and control. Appreciation is again expressed for the co-operation and help given by the staff of the Tuberculosis Laboratory at Fairfield Hospital.

The figures for this year's report have been compiled some weeks earlier than in previous years, so that isolations from cultures carrying over into 1973 are not included and consequently are less.

During the year the Laboratory's work resulted in—

15,880 direct smear examinations,

16,503 cultural examinations,

240 animal inoculations,

2,267 sensitivity tests.

Isolations of tubercle bacilli were made from 295 patients of whom 230 were new cases, 32 were “carry over” cases from the end of 1971, 23 were from reactivated cases, and 10 were from persons with chronically active tuberculosis.

### *Primary Resistance.*

Fifteen cases with primary resistance were detected, 13 were migrants. In the past 9 years there have been 89 cases of primary resistance detected and 54 of these persons were born outside of Australia.

### *Bovine Type.*

One isolation was made during the year (a man with a groin abscess).

### *Treatment.*

The measure of efficacy of tuberculosis treatment now hinges around the time taken for bacterial conversion to non-infectivity, and the number of relapses or reactivations of disease recorded, as it is fully justified to expect 100 per cent. conversion of all patients—whether new or previously treated. Even drug resistance, comparatively rare in our patients, is not a major handicap when backed up by our efficient laboratory services and available range of drugs.



The five drugs responsible for such optimism are streptomycin, isoniazid, P.A.S., ethambutol, and rifampicin, and experience shows an increase in the numbers of patients being treated with drug combinations including the more recently developed drugs, ethambutol and rifampicin ; which are proving effective and much better accepted by patients.

However, the major problems concerning the physicians relate to the patients' reactions to the toxic effect of the drugs used, and especially personality problems, which so often are the direct cause of failed treatment, now rarely initially, but not uncommonly associated with later relapse of disease.

The Medical Superintendent of Heatherton Sanatorium, has commented—

“ The community in general still seem to have a fear of tuberculosis, but this fear turns to indifference when the patient finds out, from our propaganda, that treatment can be successful. Problems arise in maintaining discipline—i.e., in conscientiously taking their drugs and treatment—especially among those who feel that a heavy intake of alcohol is necessary for their well being or masculine image. Amongst migrants language and cultural factors often make communication difficult to achieve successful drug treatment ; but, lack of communication—or co-operation—is not by any means confined to migrants nor the uneducated.

Throughout the world attempts are currently being made to improve chemotherapeutic régimes, so as to achieve as rapid a conversion as possible by using bactericidal drugs in appropriate combinations, and then continuing treatment with these drugs, preferably supervised, on an intermittent basis thrice or twice weekly.

The case register lists 1,066 patients under active drug treatment at the end of 1972, widely scattered throughout Victoria. Individual supervision of each dose of drug is probably impracticable, but investigations are being carried out to ascertain the possibility of identifying the group who will be bad drug-takers and directing special supervision to their drug-taking. The use of the better tolerated drugs, though more expensive and at times more toxic, may improve the long-term results and reduce relapses.

Doctors and nurses endeavour to educate patients and their families in the importance of continuing drug-taking whether supervised or not and in the sanatorium, in the clinic and in the home.

The use of supervised, intermittent treatment associated with a warranteeship of tuberculosis allowance payments has proved most useful for a small number of ‘hardened’ relapse patients who also have social and alcoholic problems. This treatment is very time-consuming for medical officer, social worker and nurse and remains restricted to persons who can fairly readily attend a departmental clinic. It is also very tolerance-consuming for all.”

#### *Institutions.*

A further 44 beds at the Austin Hospital have been released bringing the total officially released since 1954 to 832 beds. Of the remaining 340 beds listed to us throughout Victoria, many are being used for other purposes, but are available if and when required. However, Heatherton Sanatorium continues to have unoccupied beds over predictable requirements, which raises bed costs when estimated on a basis of daily occupied beds.

The registered primary school at Heatherton Sanatorium was closed at the end of 1971, as the numbers of child patients had diminished. In the latter part of the year the children's ward was closed and the few children admitted to Heatherton were admitted to another ward. Hopefully, another sign of progress in tuberculosis control.

#### *Social Welfare.*

Financial worries of patients appear to be less mainly due to a greater number insuring against illness, especially in car hire-purchase agreements and the larger hire-purchase companies on the whole seem to have adopted a policy of lower repayments rather than insistence on re-possession.

The exception is the group who have budgeted on hire-purchase commitments to almost the last cent of their income, or who have been in financial difficulties prior to admission to sanatorium. Many of these have unsatisfactory work histories and problems associated with alcoholism and gambling. Many immigrants have to pay high rents for accommodation. Close social supervision, either by this Department or other social work agencies, seems to be the only way of helping these people and warranteeship of pensions still appears the best way of assisting many alcoholics, both inside and outside sanatorium.

#### *Legal Powers.*

Under the provision of the Health Act, two persons received orders to attend for X-ray—one person attended, the other is still pending. Fortunately, the group of people who required this legal spur in their management is small.



## INFECTIOUS HEPATITIS.

Notifications declined during 1972 being 1,226 as compared with 1,895 for 1971. The distribution between the country and metropolitan areas was fairly even and there was no marked seasonal prevalence.

Generally the disease affected the younger age groups and characteristically was more severe in older people. The six deaths recorded in this group at Fairfield Hospital were in older people.

There were 62 notifications of serum hepatitis compared to 66 in 1971. One death was recorded at Fairfield Hospital. 17 cases were known to be due to the use of contaminated syringes associated with drug misuse.

## CHOLERA OUTBREAK.

Following reports in November, 1972, of two cholera suspects who were being investigated at the Prince Henry Hospital, Sydney and who had travelled on a Qantas flight from London to Australia, inquiries were promptly made with the Commonwealth Department of Health. It was ascertained that four days previously 141 passengers had disembarked in Melbourne from the Qantas 747 on which there had been the two cholera suspects. An urgent request for information was made to the Commonwealth Department of Health. The Medical Officers of Health and Health Inspectors were requested to assist departmental officers in tracing all passengers. All patients and contacts who were ill, were admitted to Fairfield Hospital as well as passengers with bacteriologically positive faecal specimens.

In all 39 people were admitted. 15 of these had diarrhoea of varying severity, 6 of whom were bacteriologically confirmed, the diagnosis in the other 9 was presumptive, 5 required intravenous resuscitation and in 2 of these fluid loss was severe. A further 15 asymptomatic patients were admitted with positive faecal cultures. Nine family contacts most of whom were grandchildren of passengers, were admitted with some diarrhoea for investigation but no secondary cases were found.

Food and vaccination histories were obtained from the passengers, samples were taken from the water supply in the aircraft and its water and sewerage systems inspected.

The cholera organism was found to be biotype El Tor, serotype Inaba.

## OTHER IMPORTED DISEASES.

During 1972, 20 persons with malaria, 6 with Hansen's Disease, 3 with serum hepatitis, 2 with typhoid fever, 1 with paratyphoid, 2 with amoebic dysentery, 2 with helminthiasis, 1 with bilharziasis, 1 with dengue fever and 1 case of yaws were reported who on inquiry were found to have acquired their infections overseas. These persons were either immigrants or had visited overseas countries. There were no fatalities.

All the malaria cases were plasmodium vivax infections which were mainly acquired in New Guinea. Most had taken regular chloroquin prophylaxis but except for one had not had a "curative" course on their return.

The 6 new patients with Hansen's Disease were immigrants to Australia and had contracted their disease prior to their arrival. There is no evidence that this disease has been transmitted in Victoria.

## TYPHOID FEVER.

Five cases of typhoid infection and two carriers were notified during 1973. Particulars of the cases were as follows :—

A 31-year-old man who developed typhoid fever on his return from a visit to South-East Asia and a 20-year-old immigrant woman from Lebanon who also developed the disease. Both acquired their infections overseas.

A 16-year-old boy and a 5-year-old schoolgirl who developed typhoid fever the origin of which was not determined.

A 35-year-old Board of Works employee was found to be a carrier on routine screening.

The grandmother of a 16-month-old girl who developed an acute infection, was found to be a carrier.

A 41-year-old man who recently had returned from overseas developed an enteric fever which was diagnosed and treated as a paratyphoid B infection.

## DIPHTHERIA.

A 6-year-old girl who had not been immunized against diphtheria, developed laryngeal diphtheria shortly after moving from the country to the city. All household, hospital and school contacts were given booster toxoid injections. The close contacts were found to have negative throat swabs while under medical surveillance.



A 26-year-old male who was also unimmunized, was clinically diagnosed as a mild case of diphtheria.

These patients highlight the necessity for continued immunization programmes throughout the State and for early recognition of the disease by medical practitioners.

#### TETANUS.

Five cases of tetanus, all in unimmunized persons, were notified during 1972. Of these an 82-year-old man and a 79-year-old woman died following illnesses in which infection from tetanus contributed towards their death. This tetanus followed minor injuries.

Three men aged 64, 41 and 34 years who acquired the infection from soil-contaminated lacerations of their hands, were treated successfully at Fairfield Hospital. The first two had severe tetanus.

These cases stress the importance of persons whose occupations expose them to a repeated risk of soil-contaminated wounds, however minor, being immunized against tetanus.

#### GASTRO-ENTERITIS.

Seventy-five cases of salmonellosis and 37 cases of shigellosis were notified, mostly during the warmer months.

The salmonella infections were chiefly due to serotypes typhimurium and Newport and affected mainly the young and elderly. Shigella infection was confined to the younger age groups.

Nineteen cases of shigella sonnei occurred in an inner-suburban day centre. Otherwise the cases were scattered.

Only one case of food poisoning was notified for the year.

The annual winter epidemic of gastro-enteritis due to an unidentified virus began in April, reached its peak in July and had waned by early spring. Many of the children admitted to hospital required intravenous fluid replacement.

#### ZOONOSES.

Notification for these illnesses were—

- Brucellosis (30),
- Hydatidosis (4),
- Ornithosis (3) and
- Q Fever (1).

Twenty-four brucellosis cases were from country areas and were acquired by farmers attending aborting cows. In a few the source was probably raw milk. In many of these cases subsequent blood testing by the Department of Agriculture showed that the herds were positive.

Hydatidosis was reported in 4 people 1 of whom, a 25-year-old man, had acquired his infection in Italy 20 years ago. The others were from Victorian sheep farms and involved 2 females aged 3 and 50 years and a farmer aged 40 years.

Three isolated cases of ornithosis occurred in adults.

A 45-year-old abattoir worker was notified as having Q fever.

#### ENTEROVIRUS INFECTION.

Over the summer period for 1971–72 there was a moderate epidemic of enteroviral infection as judged by the number of enteroviral meningitis cases admitted to Fairfield Hospital. This epidemic reached its peak in February and no doubt was responsible for many non-specified febrile illnesses in the community not severe enough to warrant admission to hospital. ECHO virus type 11 was the most common but additionally Coxsackie virus types A9, B2, B4, B5 and ECHO virus types 6, 17, 20 and 21 were seen. By May the epidemic had waned.

Early last summer saw the emergence of an epidemic, this time with the predominant virus being ECHO virus type 9. This virus is probably the most common viral cause of erythematous rashes in children apart from measles and rubella.

#### RESPIRATORY VIRUS INFECTIONS.

Most acute respiratory disease occurring in winter is believed to be caused by viruses. The mild 1972 winter was associated with a lower than usual incidence of all forms of respiratory disease requiring hospital admission.

The predominant virus causing croup in infants was myxovirus parainfluenzae type 3 though types 1 and 2 were also prevalent. The annual winter epidemic of bronchiolitis reached its peak in June and was due to Respiratory Syncytial Virus (RSV).



During September there was an increase in the number of Fairfield Hospital admissions from whom the new strain of influenza virus, type A England /42 /72, was isolated. This however was not followed by a severe epidemic. That the overall morbidity was low was probably due to the late appearance of the virus in a mild winter when a low carrier rate of pneumococcus, the common secondary bacterial invader, would be expected.

Serological tests have indicated that approximately one-quarter of the community has been exposed to the new strain of influenza during the latter part of 1972.

#### POLIOMYELITIS AND ALLIED DISEASES.

##### *Incidence of Poliomyelitis.*

Three cases of moderately severe poliomyelitis were reported during 1972 in a boy age 5 years from Footscray, a girl age 9 from Swan Hill and a boy of 2 years from Donald. None of these children had received immunization against poliomyelitis.

In the past five years only six cases of poliomyelitis have occurred.

##### *Distribution of Sabin Vaccine.*

A total of 443,370 does of Sabin vaccine were issued during the year, bringing the total number of doses now distributed throughout Victoria to 5,360,370.

##### *After-care Treatment.*

The Department continues to provide orthopaedic supervision and physiotherapy to post-poliomyelitis patients and to persons suffering from acute infective polyneuritis or multiple sclerosis. There were 89 new referrals during the year, 31 of whom were post-poliomyelitis cases.

Clinics were held in country districts and in various centres in the metropolitan area.

Domiciliary visits were made where patients were unable to attend these centres.

Assistance was provided as necessary for the purchase of splints.

##### *Other Activities of the Division.*

Mental health centres in Sunbury, Janefield and Larundel continue to receive physiotherapy services. Some assistance was also given to the Allambie Reception Centre of the Social Welfare Department and at ante-natal clinics conducted by the Maternal and Child Welfare Branch.

#### IMMUNIZATION MATERIAL ISSUED TO MUNICIPALITIES 1972-73. (with figures for 1971-72 for comparison).

Material.										Number of Doses.	
										1972-73.	1971-72.
Measles Vaccine	..	..	..	..	..	..	..	..	..	97,296	88,662
Rubella Vaccine	..	..	..	..	..	..	..	..	..	53,883	35,619
Sabin Vaccine	..	..	..	..	..	..	..	..	..	443,370	829,790
Triple Antigen	..	..	..	..	..	..	..	..	..	280,347	275,495
A.D.T.	..	..	..	..	..	..	..	..	..	57,216	44,565
Combined Diptheria—Tetanus Prophylactic	..	..	..	..	..	..	..	..	..	101,528	129,042
Purified Tetanus Toxoid (A.P.A.)	..	..	..	..	..	..	..	..	..	20,219	37,800
Smallpox Vaccination	..	..	..	..	..	..	..	..	..	25,109	25,194
Schick Test Toxin	..	..	..	..	..	..	..	..	..	800	550
Diphtheria Prophylactic (P.T.A.P.)	..	..	..	..	..	..	..	..	..	3,198	1,975
Cholera /Typhoid	..	..	..	..	..	..	..	..	..	20	..

#### VENEREAL DISEASES.

##### *Government Clinic.*

TABLE I.—NEW PATIENTS AT THE GOVERNMENT CLINIC.

Year.	Patients.			Gonorrhoea.			Syphilis.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1963 .. ..	2,396	615	3,011	645	238	883	41	3	44
1964 .. ..	2,288	644	2,932	678	227	905	28	1	29
1965 .. ..	2,622	788	3,410	862	215	1,077	43	3	46
1966 .. ..	2,699	919	3,618	814	314	1,128	29	3	32
1967 .. ..	3,124	1,244	4,368	824	381	1,205	33	4	37
1968 .. ..	3,015	1,201	4,216	734	335	1,069	40	5	45
1969 .. ..	3,016	1,167	4,183	796	372	1,168	70	8	78
1970 .. ..	3,329	1,546	4,875	952	721	1,673	38	4	42
1971 .. ..	3,558	1,639	5,197	1,014	659	1,673	34	10	44
1972 .. ..	4,309	2,095	6,404	1,009	832	1,841	38	8	46

Table I indicates the attendance figures for new patients at the Government Clinic for the ten-year period 1963-1972 inclusive, including the number of patients diagnosed as suffering from syphilis and gonorrhoea.

TABLE II.—NEW PATIENTS AT THE GOVERNMENT CLINIC FOR THE FIRST SIX MONTHS OF 1972 AND 1973.

Year.	Patients.			Gonorrhoea.			Syphilis.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1973 .. ..	2,409	1,069	3,478	438	384	822	13	4	17
1972 .. ..	2,242	1,074	3,316	492	396	888	15	1	16

Table II. presents similar statistics for the past six months (January 1st to June 30th, 1973).

The main point that emerges from study of these figures, is the steady increase each year in the number of patients seeking examination at the clinic, particularly on the female side.

As stated in previous reports, this is mainly due to intensification of contact tracing, of all positive cases, with the emphasis on tracing female contacts, as they constitute a large, symptomless, but highly infectious reservoir for these diseases.

The worth of the procedure, is confirmed by the high percentage of positive cases detected in these female cases, who have attended for examination after being “traced”.

This is further illustrated by comparison of the male to female ratio of gonorrhoea at the Clinic over the past ten years, the ratio rising from approximately 4 : 1 in 1962 (805 : 228) to the present figure of almost 1 : 1 (1,009 : 832).

TABLE III.—VENEREAL DISEASES NOTIFICATIONS FOR VICTORIA.

Source.							Gonorrhoea.			Syphilis.		
							Male.	Female.	Total.	Male.	Female.	Total.
1972												
Government Clinic .. .. .							1,009	832	1,841	38	8	46
Others—												
Metropolitan and Country .. .. .							296	93	389	19	46	65
							1,305	925	2,230	57	54	111
1971 .. .. .							1,345	734	2,079	61	38	99
1970 .. .. .							1,300	768	2,068	59	14	73
1969 .. .. .							1,175	450	1,625	97	54	151
1968 .. .. .							1,189	424	1,613	65	19	84
1967 .. .. .							1,361	485	1,846	59	33	92
1966 .. .. .							1,265	413	1,678	47	6	53
1965 .. .. .							1,264	322	1,586	66	19	85
1964 .. .. .							1,019	283	1,362	48	11	59
1963 .. .. .							997	300	1,279	62	10	72

Table III. gives the total notifications of all venereal diseases in the State of Victoria during 1972 with comparative figures for the previous nine years.

The notification of gonorrhoea continues to rise each year, but is still fairly satisfactory when compared with the very high figures being reported from most other countries and taking into account the population increase over this period.

The number of cases of syphilis reported is still low and a cause for satisfaction, especially as no cases of congenital syphilis were reported.



TABLE IV.

FEMALES.							
Government Clinic.				Rest of Victoria.		Total.	
Age Groups.	Attendances.	Gonorrhoea.	Syphilis.	Gonorrhoea	Syphilis.	Gonorrhoea.	Syphilis
0-9 .. ..	..	..	..	3	..	3	..
10-14 .. ..	105	27	..	..	1	27	..
15-19 .. ..	907	364	2	27	8	391	10
20-24 .. ..	539	252	1	30	14	282	15
25-29 .. ..	253	97	..	17	12	114	12
30-34 .. ..	94	38	..	4	4	42	4
35-39 .. ..	67	24	1	7	2	31	3
40-44 .. ..	44	14	..	..	..	14	..
45-49 .. ..	42	8	3	1	1	9	4
50+ .. ..	44	8	1	1	3	9	4
				(?Age Group)		(Unspecified)	
	..	..	..	3	1	3	1
Total ..	2,095	832	8	93	46	925	54

TABLE V.

MALES.							
Government Clinic.				Rest of Victoria.		Total.	
Age Groups.	Attendances.	Gonorrhoea.	Syphilis.	Gonorrhoea.	Syphilis.	Gonorrhoea.	Syphilis.
0-9 .. ..	..	..	..	4	..	4	..
10-14 .. ..	..	..	..	1	..	1	..
15-19 .. ..	755	226	2	45	1	271	3
20-24 .. ..	1,579	367	5	87	4	454	9
25-29 .. ..	896	204	13	70	3	274	16
30-34 .. ..	413	86	7	26	4	112	11
35-39 .. ..	248	55	3	21	1	76	4
40-44 .. ..	179	38	2	10	2	28	4
45-49 .. ..	110	22	2	6	1	28	3
50+ .. ..	129	11	4	4	3	15	7
				(?Age Groups)		(Unspecified)	
				22	..	22	..
Total ..	4,309	1,009	38	296	19	1,305	57

Tables IV. and V. give the breakdown of the notification of gonorrhoea and syphilis by age and sex.

Despite the apparent acceptance of a greater permissiveness by the community and the allegedly greater promiscuity of its members, particularly in the teenage groups, there has been no definite shift of the age incidence to more youthful levels.

TABLE VI.

Primary.		Secondary.		Early Latent.		Late Latent.	
M.	F.	M.	F.	M.	F.	M.	F.
18	15	9	8	27	28	3	3

Table VI. is a breakdown of all cases of syphilis notified during 1972 by sex groups and stages of the disease.

Only those in the primary and secondary stages are to be regarded as cases of infectious syphilis.

In addition, there were three cases of ophthalmia neonatorum reported (2 males and 1 female).

## OTHER ITEMS RELATING TO VENEREAL DISEASE MANAGEMENT.

A. *Fairlea Prison.*

A total of 292 prisoners were examined ; 49 were diagnosed as suffering from gonorrhoea and 3 from syphilis. Appropriate treatment was given and it is considered that this is still a worthwhile form of venereal disease control.

B. *Diagnostic Procedures.*

Research continues on the problem of more accurate diagnosis of venereal diseases, particularly culture and serology tests for females with suspected gonorrhoea.

C. *Therapy.*

Penicillin is still the most effective drug in the treatment of both gonorrhoea and syphilis. Trobicin (Spectinomycin) has been used at the clinic for about twelve months and is considered a useful adjunct to the list of therapeutic agents.

D. *Venereal Disease Control.*

At present the only effective weapon of control in force against these infections is contact tracing, complemented by other forms of case finding, e.g. routine serology of blood donors, patients in psychiatric hospitals and other institutions, prison inmates, etc., and cultures and smears of specialized female groups, e.g. post-natal examinations, family planning clinics, etc.

Even so, the most which can be achieved with these control measures, is to hold the present levels of incidence, with perhaps some slight yearly decrease, provided always that the measure is fully implemented, and continuous pressure applied on all patients to assist in bringing their partners to treatment.

At the Government Clinic it is recognized that this is the only proven control measure available and that its scope must be expanded.

## EXOTIC DISEASES UNIT—FAIRFIELD.

At the end of 1972 when the Victorian population was 3,577,800 persons (est.) there were 24 persons being treated for Hansen's Disease (6 in-patients and 18 out-patients).

The following table shows the sex, nationality and source of infection of these patients:—

In-patients.		Out-patients.		Nationality.	Source of Infection.
Male.	Female.	Male.	Female.		
1	1	5	..	Maltese .. ..	Malta
3	..	1	2	Anglo-Indian .. ..	India
..	..	2	..	English .. ..	India
..	..	1	1	Italian .. ..	Italy
..	..	..	1	Greek .. ..	Greece
..	..	..	1	Greek .. ..	Egypt
..	..	1	1	Ceylonese .. ..	Ceylon
..	..	1	..	Seychelles Islanders .. ..	Seychelles Islands
1	..	..	..	Australian .. ..	Palestine or Syria*
..	..	1	..	Australian .. ..	Borneo*
5	1	12	6		

\* War Service

One Australian male has been an in-patient for 14 years.

The 18 out-patients are medically examined at least bi-annually.

The hospital is available to accept persons found to be suffering from other exotic diseases requiring complete isolation.

## MICROBIOLOGICAL DIAGNOSTIC UNIT.

*Enteric Organisms.*(a) *Cholera.*

In November the laboratory examined the faeces of all Victorian passengers from a Qantas Jumbo Jet flight which had carried a confirmed cholera case. Of 424 faeces examined 9 patients grew *V. cholera* El Tor serotype Inaba. *Salmonella* derby was also isolated from one of the patients. Non-cholera vibrios were isolated from another 2 specimens. The patients were asymptomatic at the time of providing specimens.

As the possibility of the introduction of cholera into Australia with increased air travel had been expected, the laboratory was prepared for such an emergency and was able to deal with the specimens with the minimum of delay.



A further 22 faeces were examined from passengers on two other flights which had passed through Bahrain but no *V. cholera* was isolated although *Salmonella typhimurium* was isolated from 2 passengers and *Salmonella paratyphi* and *Salmonella weltevreden* from 2 other passengers.

Two days after the aircraft's arrival water samples from the various water tanks on board the Boeing 747 were submitted for examination. Neither *V. cholera* nor coliforms were isolated from the water but the total viable counts (37°C) were grossly excessive for water which was reported to have had chloramine treatment.

The laboratory also carried out biochemical tests and serological typing of a further 6 cultures isolated at the Fairfield Infectious Diseases Hospital.

(b) *Typhoid*.

Five new cases of typhoid occurred in Victoria in 1972.

One man with a history of diarrhoea of several weeks duration was assumed to have contracted the disease while hitch-hiking in Europe and Asia. A 16-month-old girl was infected by her grandmother. No carrier was found amongst the direct family contacts of the other 3 cases.

For some years the laboratory has been screening all workers on Melbourne and Metropolitan Board of Works catchment areas with Widal and Vi agglutination tests. Any suspicious results are followed up with cultures of faeces and urine. In November one such suspicious Vi agglutination consistently grew *Salmonella typhi* phage type M1 from faecal cultures. This man, originally from Germany, had travelled widely and had previously worked in Chile. This is the first typhoid carrier which the screening has revealed although other workers have been shown to be excreting *Salmonella* serotypes or *Shigellae*.

Four other old carriers and one case isolated in 1971 were still excreting *Salmonella typhi*.

Six strains isolated in other States were also phage typed, one from a carrier from Western Australia who infected his daughter and five from New South Wales, one a child recently arrived from the New Hebrides and three, a mother and two children who had just returned from Lebanon.

(c) *Paratyphoid*.

Two cases occurred, one was in a 7-month-old baby and the other, in a 41-year-old male, was probably contracted overseas. A third isolation was made from a biopsy site.

There were 5 cases reported from South Australia (3 within the one family) and 1 from New South Wales from a 5-year-old baby who had recently returned from Lebanon. Fourteen cultures isolated from sewage in South Australia were also phage typed.

(d) *Other Salmonellae*.

A total of 768 *Salmonellae* were identified during the year. 126 of these cultures came from interstate. Of the 642 Victorian cultures, 263 came from non-human sources, namely eggs, calves, meat meal, sausages or water.

*Salmonella typhimurium* was still the predominant serotype from humans accounting for 62 per cent. of isolates. Other common serotypes were again *Salmonella bovis-morbificans* (10 per cent.), *Salmonella newport* (8 per cent.), and *Salmonella derby* (5 per cent.). *Salmonella typhimurium* and *Salmonella bareilly* accounted for 87 per cent. of the egg pulp isolates.

Altogether 39 serotypes were isolated with four types, *Salmonella blockley*, *Salmonella livingstone*, *Salmonella irumu* and *Salmonella weltevreden*, being isolated for the first time.

There were no institutional outbreaks due to *Salmonella* in 1972.

The phage typing of *Salmonella typhimurium* continued and as well as the 321 isolates identified in the laboratory, 1,122 cultures were received from the *Salmonella* Reference Laboratory in Adelaide and other interstate laboratories.

(e) *Shigellae*.

Of 544 strains of *Shigella* species examined, 163 came from Victoria, 109 from Queensland, 4 from New South Wales, 3 from the Australian Capital Territory and 1 from the Northern Territory. 254 cultures of *Shigella sonnei* were received from South Australia for colicine typing. These were predominately type 4 and type 0. Of the Victorian strains 54 per cent. were *Shigella sonnei* and 26 per cent. *Shigella flexneri* 2A and *Shigella flexneri* 3A had dropped to only 8 per cent. of the isolates. This last reflected a decrease in specimens from a children's institution.

*Shigella sonnei* colicine type 2 was again prevalent at another children's institution where 15 cases were isolated in January and February.

There was a small outbreak in a suburban kindergarten where *Shigella sonnei* colicine type 2 was isolated from 4 children. Some of these children also had heavy infections of *Giardia lamblia*.



(f) *Enteropathogenic E. coli.*

Seventy-two strains of enteropathogenic *E. coli* were examined. Serotypes 0111K58 (B4) and 055K59 (B5) caused some trouble at a babies' home in August and September while 0111K58 (B4) was encountered and 055K59 (B5) at two other separate babies' homes early in the year.

Forty cultures submitted to the laboratory by a Melbourne hospital from a supposed outbreak in the nursery due to *E. coli* 0142K86 did not agglutinate with our antisera and were forwarded to the *E. coli* Reference Laboratory at Colindale in London where they were identified as a variety of serotypes not commonly enteropathogenic. Some commercial antisera had given cross-reactions leading to the difficulty encountered.

*Diphtheria.*

No strains of *C. diphtheriae* were isolated in Victoria in 1972. Seven cultures were received from Queensland and all were serotype Johnson, diphtherocin type L.S. Three cultures received from New South Wales were all serotypes 6387—Greenwood, diphtherocin type L.S. Four other cultures received were not *C. diphtheriae*.

*Gonorrhoea.*

A total of 3,575 patients were examined specifically for *N. gonorrhoea*; from these patients 8,572 specimens were examined (495 smears and 8,077 for culture).

All the 495 smears and 556 swabs were examined for general practitioners and from 371 patients both swab and smear were submitted. Of these 14 were positive in smear only, 31 were positive in culture only and 39 were positive in both culture and smear. These figures emphasise the need for submission of both smear and swab from male and female patients. The reason that smear was positive and culture negative was, in general, a delay of 24 hours or more in transit to the laboratory.

Of the swabs submitted by the Government Clinic, 83 were taken from male patients as part of a trial designed to test the efficacy of a "transgrow" medium in order to increase the isolation rate and overcome the delay in transit which occasionally occurs. The increase in female patients' specimens arose from the routine culturing of anal swabs as well as urethral and cervical swabs after June. 6.7 per cent. of all patients were found to be positive on anal swab only.

Antibiotic sensitivity of isolates of *N. gonorrhoea* from all sources was carried out by the method of incorporating various concentrations of the antibiotics into the medium (Minimum Inhibitory Concentration). Fifty-eight of the 645 strains which were tested were found to be insensitive to the highest of the four concentrations of penicillin employed. Five hundred and seventy isolates were tested against one concentration of tetracycline and 372 against one concentration of erythromycin (this was later discontinued) and 278 against three concentrations of spectinomycin. In general, strains which were insensitive to penicillin, were also insensitive to tetracycline but were highly sensitive to spectinomycin whereas strains sensitive to penicillin and tetracycline showed increased resistance to spectinomycin.

*Water Microbiology.*

The number of specimens remained fairly constant. During the year an updated method of examining waters for coliforms and *E. coli* was commenced. Waters are now examined for presumptive coliforms using minerals modified glutamate lactose broth. The coliform count is confirmed using brilliant green bile broth and the *E. coli* count is done using Jameston and Embley's teepol broth. *Salmonella* species have again been isolated from several samples.

A survey was done on country swimming pools and also tap water and from water at Frankston, Lakes Entrance and the Yarra River. The survey of country reticulation samples revealed a number of samples to be suspicious or unsatisfactory.

*Food Microbiology.*

Sixteen episodes of food poisoning were investigated. As in past years these examinations were not always satisfactory as in some cases no faeces or vomitus was sent from the patients while in other episodes either no food was sent or the food which was submitted was not the same as had been eaten at the time of the episode.

In one episode *Salmonella seftenberg* was isolated from the patient but not the food.

In another episode *Salmonella derby* and *Salmonella bovis-morbificans* were isolated from a specimen of sausage and *Salmonella derby* from an employee of the shop selling the sausage but nothing significant from the patients involved. A further food poisoning outbreak at an old persons' institution early in the year involved 35 patients. Although the same serotype of *Clostridium perfringens* was isolated in large numbers from the faeces of the 3 patients examined no *Clostridia* were isolated from the food specimens submitted.



Regular monitoring of fresh oysters has been carried out with the co-operation of the City of Melbourne. On the whole the quality has been reasonable but certain batches did not measure up to United Kingdom or United States of America criteria. The samples have been cultured for *Vibrio parahaemolyticus* as well as the usual food-poisoning organisms but no isolations were made in 1972. This work is continuing.

Several samples of pet food were examined for *Bacillus anthracis* following reported cases of human anthrax contracted by slaughtering infected animals used for pet food. These were negative for this organism.

#### General.

The technique of testing organisms for antibiotic sensitivity has been revised to follow the method recommended by Garrod and Waterworth. This gives a more standardized result and each organism is only tested against those antibiotics which would be therapeutically appropriate.

Following the award of his Ph.D. degree at the end of 1972, one of the senior bacteriologists employed at the unit resigned in March, 1973 to take up a lectureship at the School of Life Sciences at the New South Wales Institute of Technology. During his nine years in the unit he contributed greatly to its work particularly in the areas of *C. diphtheriae* identification and notation, the laboratory diagnosis of gonorrhoea and food and water microbiology.

The other senior bacteriologist was overseas for three months on long service leave. During this time she spent several weeks at the Colindale Enteric Reference Laboratory in London studying the latest developments of phage typing of enteric organisms.

### MICROBIOLOGICAL DIAGNOSTIC UNIT.

#### ANNUAL EXAMINATIONS.

#### *A Comparison of Numbers for Calendar Years 1971 and 1972.*

Examinations.								1971.	1972.
1. <i>Upper Respiratory Tract Infections</i> —									
(a) <i>Diphtheriae</i> —									
(i) Cultural examinations	..	..	..	..	..	..	..	2,743	2,438
(ii) Isolations and Identifications	..	..	..	..	..	..	..	25	10
(b) <i>Haemolytic Streptococci</i> —									
(i) Cultural examinations	..	..	..	..	..	..	..	2,743	2,438
(ii) Groupings	..	..	..	..	..	..	..	308	181
(iii) Antistreptolysin titre tests	..	..	..	..	..	..	..	100	133
(c) Vincent's Organisms	..	..	..	..	..	..	..	..	2
2. <i>Enteric Infection (Salmonella and Shigella)</i> —									
(i) Cultural examinations	..	..	..	..	..	..	..	3,980	3,834
(ii) Identifications	..	..	..	..	..	..	..	2,493	1,835
(iii) Widal agglutinations	..	..	..	..	..	..	..	1,225	1,185
3. <i>Serological Investigations</i> —									
(a) <i>Brucella</i>	..	..	..	..	..	..	..	1,163	883
(b) <i>Glandular Fever</i>	..	..	..	..	..	..	..	37	33
(c) <i>Leptospirosis</i>	..	..	..	..	..	..	..	301	247
(d) <i>Typhus Fever</i>	..	..	..	..	..	..	..	25	21
(e) <i>Rubella H.I.</i>	..	..	..	..	..	..	..	1,588	1,205
(f) Others	..	..	..	..	..	..	..	..	4
4. <i>General Bacteriological Examinations</i> including endogenous infections, food poisoning outbreaks, microbiological examination of food, milk, etc.—									
(i) Cultures	..	..	..	..	..	..	..	1,123	2,167
(ii) Drug sensitivities	..	..	..	..	..	..	..	2,417	1,802
5. <i>N. gonorrhoeae and related infections</i> —									
(a) <i>N. gonorrhoeae</i> —									
(i) Smears	..	..	..	..	..	..	..	754	495
(ii) Cultural examinations	..	..	..	..	..	..	..	5,276	8,077
(b) <i>Trichomonas</i> and <i>Monilia</i>	..	..	..	..	..	..	..	71	164
6. <i>Medical Mycology</i> (Microscopy and Cultures)								101	102
7. <i>Water examinations</i>								504	522
8. <i>Parasitological examinations</i>								237	153
Totals	..	..	..	..	..	..	..	27,152	27,971

### HEALTH LABORATORY.

#### General.

During 1972 samples examined increased to 2,800, almost 10 per cent. higher than in 1971, again establishing a record.

Analysis, however, represents only part of the activities of the Laboratory, particularly for senior officers, who answered about 1,000 inquiries on technical matters from sources outside the Department. Other officers have been frequently involved in inspections and legal proceedings.

In addition to extensive committee work the Senior Chemist, Mr. R. C. Stanhope, lectured to the Home Economics Teachers Group on two occasions, and the Australian Public Health Association. Mr. N. C. Greene, the recently appointed Assistant Senior Chemist, addressed the Annual Convention of the Australian Institute of Food Science and Technology on the determination of mercury in fish.

Analysis of samples for the Westernport Environmental Study is also being carried out under direction by temporary staff appointed to the Study Group. This work commenced in February and by the end of June had involved about 1,000 tests on 130 additional samples representing runoff into Westernport Bay.

A variety of new equipment advanced scientific capabilities. Purchases included additional gas chromatographic and atomic absorption accessories, a low-power stereo microscope, a can headspace sampler and an electronic calculator.

Meat and Meat Products.

The worst case of adulteration detected was a sausage meat which contained only 47 per cent. meat, the regulatory minimum being 75 per cent. and in addition contained 8.5 grains per pound of sulphur dioxide and 16 per cent. starch, both well in excess of the satutory limits of 3.5 grains per pound and 6 per cent. respectively.

Many samples had been treated illegally with sulphur dioxide, the highest level found being 16.6 grains per pound in chopped meat.

A product sold as "chicken legs" contained no chicken whatsoever, and a prohibited colour was detected in frankfurts.

There was a marked reduction in the proportion of meat pies not complying with standards. The number detected was, in fact, the lowest for seven years.

TABLE 1.—SUMMARY OF MEAT RESULTS.

Type.	Number Examined.	Number not Complying.	Percentage not complying in—		
			1972-73.	1971-72.	1970-71.
Meat—					
Fresh .. .. .	267	6	2	3	1
Chopped .. .. .	218	19	9	8	11
Corned .. .. .	8	0	0	0	0
Manufactured .. .. .	125	9	7	3	1
Canned .. .. .	1	0	0	17	0
Sausages and Sausage Meat .. .. .	262	23	9	10	14
Tripe .. .. .	8	1	13	0	20
Meat Pies .. .. .	30	5	17	28	39

Dairy Products.

Only three contraventions were reported—cheddar and ricotta cheeses with excess moisture and a yoghurt deficient in fat.

TABLE 2.—SUMMARY FOR DAIRY PRODUCTS (1971-72 figures in parentheses).

Type.	Number examined.	Number not complying.
Milk—		
Fresh .. .. .	157 (221)	0 (0)
Powdered .. .. .	1 (0)	0 (0)
Powdered Skim .. .. .	2 (3)	0 (0)
Condensed .. .. .	1 (0)	0 (0)
Butter .. .. .	42 (39)	0 (0)
Cream—		
Fresh .. .. .	17 (16)	0 (0)
Thickened .. .. .	5 (8)	0 (0)
Sour .. .. .	0 (1)	0 (0)
Cheese .. .. .	37 (31)	2 (1)
Ice Cream, etc. .. .. .	14 (17)	0 (1)
Yoghurt .. .. .	11 (1)	1 (0)

Fruit Products.

Only two out of 21 fruit juices were found deficient in vitamin C during the year, indicating that adequate fortification is taking place in most instances. The two contraventions were for orange juice and pineapple juice containing 3.4 and 0.8 mg./fl. oz. respectively, compared with the relative standards of 11.5 and 3 mg./fl. oz.

A raspberry cordial contained almost twice the statutory limit of 7 gr./pint of benzoic acid, and the illegal addition of preservative was detected in fruit salad purchased in a country municipality.



Food Contamination.

Complaints received by the Department resulted in the examination of a number of substances found in various foods. In several cases the apparent contaminant proved to be merely charred material derived from the product itself, and in one case a sediment of brominated vegetable oil in soft drink which is a normal ingredient. The Laboratory was also involved in testing smallgoods when it was suspected that a preparation containing resorcinol had been supplied in error as a food additive, but fortunately fears were ungrounded.

TABLE 3.—LIST OF FOOD CONTAMINANTS.

Food.	Foreign material.
Beef with cereal (canned) .. .. .	Mould
Bread .. .. .	Carbonaceous matter (3 samples)
Bread .. .. .	Plant material
Bread .. .. .	Rubber tube
Breakfast cereal .. .. .	Carbonaceous matter
Breakfast cereal .. .. .	Wood fragments
Bun .. .. .	Plant stalk
Cake .. .. .	Mould
Hamburger bun .. .. .	Vegetable material and carbonaceous matter
Meat pie .. .. .	Pieces of bone
Milk .. .. .	Mould
Oatmeal .. .. .	Carbonaceous matter
Peanut butter .. .. .	Pieces of string
Sandwich .. .. .	Jute fibres
Soft drink .. .. .	Brominated vegetable oil
Soft drink .. .. .	Calcium phosphate
Soft drink .. .. .	Mould
Soft drink .. .. .	Mould and plant material
Soft drink .. .. .	Yeast cells
Sugar .. .. .	Carbonaceous matter
Sugar .. .. .	Iron particles
Sugar .. .. .	Salt
Tomatoes (canned) .. .. .	Earwig

Waters, Effluents and Trade Wastes.

A wide variety of tests were performed on waters from various sources, often as a result of complaints. Residues estimated included grease, detergents and electroplating substances.

The possibility of contamination of potable water was illustrated by high levels of copper—up to 80 p.p.m.—found in a school supply due to copper service pipes and 7 p.p.m. of zinc in water held in a galvanized tank used by a hospital. Follow-up samples from the Woods Point area showed that arsenic was no longer present in streams due to leaching of mine “tailings”.

A number of town supplies and bore waters were tested for fluoride and nitrate content. The level of the former in surface waters is generally low in Victoria but often considerably higher in underground supplies.

Analysis of samples of water used in house renal haemodialysis commenced.

Pesticides.

Cherries allegedly treated with a bird repellent, anthraquinone, were shown to contain about 5 p.p.m. of this substance.

Follow-up samples taken at random in Melbourne by departmental inspectors showed that residues of anthraquinone were occurring in some instances on cherries. The level found, however, was less than 1 p.p.m., and it would seem unlikely that a hazard existed. It is understood that from July, 1973 formulations containing anthraquinone will not be registered by the Agriculture Department for purposes which give rise to residues.

All other residues were below statutory or recommended limits.

A number of samples from areas where organic mercurials were in use were examined. Although fairly high concentrations were found in the soil, transfer to plants did not appear to have taken place.

Following reports that pigs were being fed seed wheat containing hexachlorobenzene, a number of pork fat samples were tested. The small amounts found did not indicate any gross contamination, but HCB should nevertheless not be present in food.

It was found that some so-called “organic” vegetables, marketed as free from residues, did in fact contain small quantities of pesticides, below statutory tolerances. Analysis of dusts showed that extensive contamination of a dwelling had taken place due to an accident involving a truck laden with the pesticides hyvar and linuron.

TABLE 4.—SUMMARY OF PESTICIDE RESULTS.

Nature of sample.						Number.	Analyses carried out.*				No. of samples in which pesticides were detected.
Apples	..	..	..	..	..	1	1 for OC.	..	..	..	1
Beans	..	..	..	..	..	18	18 for OC.	..	..	..	18
Blood	..	..	..	..	..	12	12 for OC.	..	..	..	12
Brussels Sprouts	..	..	..	..	..	14	14 for OC.	..	..	..	6
							14 for OP.	..	..	..	0
Butter	..	..	..	..	..	10	10 for OC.	..	..	..	5
Cabbage	..	..	..	..	..	11	11 for OC.	..	..	..	7
							10 for OP.	..	..	..	1
Cherries	..	..	..	..	..	15	13 for OC.	..	..	..	3
							14 for Anthrapquinone	..	..	..	4
							1 for Arsenic	..	..	..	1
							12 for Captan	..	..	..	3
Cream	..	..	..	..	..	8	8 for OC.	..	..	..	7
Fat (Porcine)	..	..	..	..	..	30	30 for OC.	..	..	..	30
Grapes	..	..	..	..	..	20	20 for OC.	..	..	..	2
							20 for Arsenic	..	..	..	0
Milk ..	..	..	..	..	..	4	4 for OC.	..	..	..	0
Mutton Bird	..	..	..	..	..	1	1 for Mercury	..	..	..	1
Potato	..	..	..	..	..	1	1 for Mercury	..	..	..	0
Soil ..	..	..	..	..	..	8	8 for Mercury	..	..	..	8
Spinach	..	..	..	..	..	7	7 for OC.	..	..	..	6
							4 for OP.	..	..	..	0
Strawberry Plant	..	..	..	..	..	1	1 for Mercury	..	..	..	1
Tomatoes	..	..	..	..	..	21	21 for OC.	..	..	..	11
							20 for Carbaryl	..	..	..	1
Water	..	..	..	..	..	1	1 for OC.	..	..	..	0
Total	..	..	..	..	..	183	275 ..	..	..	..	128

\* Legend: OC. Organochlorine compounds. OP. Organophosphorus compounds.

Mercury and Other Metals.

Participation in the survey of mercury in edible shark and other marine species being organized by the Fisheries and Wildlife administration continued and a number of other materials were examined for this metal.

Three whole sharks were each sampled at five different points on the body in an attempt to ascertain any variation in mercury concentration. It was concluded that distribution throughout the edible portion was uniform.

Analysis for methyl mercury, using gas chromatography, was carried out on several shark samples. Most of the mercury present was shown to be in this more toxic form, as has been found overseas.

Cadmium has been estimated in a number of samples with the following results :—

TABLE 5.—CADMIUM ANALYSIS.

Sample.								No. Analysed.	Mean (p.p.m.)	Range.
Fish meal	..	..	..	..	..	..	..	1	3	
Kidneys (Beef)	..	..	..	..	..	..	..	4	0.9	0.4-1.2
Lobster—Shovel nosed	..	..	..	..	..	..	..	1	0.2	
Mussels	..	..	..	..	..	..	..	1	2.6	
Oysters	..	..	..	..	..	..	..	7	1.5	0.2-2.8
Scallops	..	..	..	..	..	..	..	25	1.1	0.7-1.5
Shark	..	..	..	..	..	..	..	6	Less than 0.1	
Snapper	..	..	..	..	..	..	..	4	Less than 0.1	
Squid	..	..	..	..	..	..	..	2	0.9	0.7-1.0

Oysters imported from New South Wales were found to have a high zinc content, ranging from 190 to 1,200 parts per million. The statutory level is 40 p.p.m. Investigations are still proceeding.

Miscellaneous.

Eggs being sold under the name of “poly-eggs” were investigated. Although the polyunsaturated acids were about 20 per cent. higher than in normal eggs, this was mainly at the expense of the monounsaturated (oleic) acid, the saturated eggs remaining about the same. It was therefore concluded that claims for 25 per cent. reduction in saturated acids were unwarranted.

Following a complaint, a grey streak in toothpaste was identified as tin oxide.

Smoked saithe (imported fish) in soya bean oil contained both added colouring and preservative, neither of which is permitted.



A cooking fat and a cake mix were found to be rancid. Inquiries revealed that the latter had been packed 18 months previously.

A sample submitted as butter was shown in fact to be margarine.

Five samples examined under the Bread Industry Act failed to meet requirements and three whiskies analysed for the Departmental Liquor Inspector were not true to label.

#### FOOD STANDARDS COMMITTEE.

During the year the major business under discussion by the Food Standards Committee was a number of proposed draft standards recommended by the National Health and Medical Research Council, on the advice of the Commonwealth Food Standards Committee, designed for uniform adoption throughout the various States.

Apart from a considerable number of amendments to existing standards the Committee also approved of a new uniform standard for special dietary foods.

Also during the year the Chairman of the Committee attended, as an Australian delegate, a meeting of the Codex Alimentarius Commission held in Rome. The Commission is an international body set up under the auspices of the World Health Organisation and the Food and Agriculture Organisation of the United Nations with the object of formulating uniform international food standards.

#### PROPRIETARY MEDICINES ADVISORY COMMITTEE.

A total of 558 applications for registration of preparations as proprietary medicines were received in the past twelve months. This brought the number of applications received since the inception of the scheme to 19,484. Of these a total of 16,115 have been recommended for registration by the Proprietary Medicines Advisory Committee.

During the past year 27 meetings of the Committee were held to examine new applications for registration.

The Committee has met on ten other occasions to review registrations of more than ten years' standing ; 825 of such registrations have now been examined.

One supplementary register was published during the year containing a total of 545 new registrations, 499 deletions were made from the register for the same period.

A constant watch was kept on newspapers and magazines published in Victoria for breaches of the Health Act by advertisers of proprietary medicines and appropriate action taken in detected cases of offending advertisements.

#### POISONS DIVISION.

##### *Legislation.*

The following legislation was introduced during the year :—

##### *The Drugs of Addiction and Restricted Substances Regulations 1972.*

These regulations amended the Drugs of Addiction and Restricted Substances Regulations 1966 to reimpose the requirement that all antibiotic preparations for bovine intramammary use should be coloured with a blue marker dye.

The requirement was partially lifted in October, 1971 when, in response to strong representations from the veterinary profession and companies promoting dry-period antimastitis preparations based on synthetic penicillins, Schedule Four antibiotic preparations were permitted to be sold without a marker dye. The dye requirement was retained for the antimastitis preparations available for former use as Schedule Six substances.

By September, 1972, however, it became apparent that antibiotic residues in milk products had risen sharply. This caused concern, not only because of the public health hazard posed by these residues, but also because of their damaging effect on Victoria's export trade in dairy products.

The requirement for the compulsory dye-marking of all antibiotic preparations for bovine intramammary use was reimposed on the recommendation of the Poisons Advisory Committee and the Victorian Department of Agriculture.

##### *The Poisons (Labelling) Regulations 1973.*

These regulations amended Regulation 17 of the Poisons Regulations 1963 (No. 2) to prescribe a new "warning label" for the containers of substances in Schedule Five to the Poisons Act.



The wording required by the previous "warning label" was much the same as that required on the labels of hazardous substances by the Labelling of Hazardous Household Substances Regulations. It applied to a very limited number of poisons in Schedule Five whose toxicity was roughly equivalent to the toxicity of hazardous household substances such as detergents, bleaches, polishes, etc.

Late in 1972, Schedules Five and Six of the Poisons Act were extensively amended to bring them into substantial agreement with the corresponding sections of the National Health and Medical Research Council Uniform Draft Schedules. Schedule Five became a "warning label only" schedule in that the majority of substances were exempt from poisons licensing, labelling and packaging provided they were labelled with a "warning label".

The alteration in the nature of Schedule Five made it necessary for many manufacturers of low toxicity chemicals to relabel their products. The old "warning label" was out of date and varied considerably from the "warning label" prescribed by the National Health and Medical Research Council Uniform Labelling Standard. In addition, it was out of harmony with warning labelling prescribed by regulations made under the Health Act that affected similar substances.

The amending regulations corrected these deficiencies.

#### *The Special Poisons (Ovulatory Stimulant) Regulations 1973.*

These regulations added the names of the Austin Hospital, the Mildura Base Hospital and the Royal Children's Hospital to the hospitals listed in the Special Poisons (Ovulatory Stimulant) Regulations 1968 (as amended) whose chief pharmacists are authorized to hold ovulatory stimulants on behalf of medical practitioners on the staff of their hospitals who hold warrants from the Chief Health Officer to possess and use these drugs.

#### *Schedules to the Poisons Act 1962.*

The schedules to the Poisons Act were amended by proclamations in November and December, 1972. As mentioned above, these proclamations extensively amended Schedules Five and Six to bring them into substantial conformity with Schedules Five and Six of the Uniform Schedules of the National Health and Medical Research Council.

The changes to these two schedules were the first part of a general review of the Victorian Schedules by the Poisons Advisory Committee to bring them as close as possible to the Uniform Schedules, which are increasingly being adopted by all States as the basis of their own poisons scheduling. Schedules Five and Six were reviewed first because uniformity between the States in these two schedules would allow labelling and packaging acceptable throughout Australia to be applied to a wide range of agricultural and industrial poisons.

#### *Monitoring of Illicit Drug Transactions.*

The scrutiny of illicit movements of drugs of addiction made possible by the processing and analysis by the Commonwealth Department of Health computer of weekly returns of all transactions in drugs of addiction submitted by manufacturers and wholesalers, continued during the year. The method of "exception" reporting whereby the States are furnished with information on authorized people receiving larger than normal amounts of drugs of addiction was refined to eliminate anomalies and provide better indications of long-term usage of drugs of addiction and possible abuse situations.

An additional benefit of the system that became evident during the year was that the Division was able to get from the Commonwealth computer at short notice a complete print-out of all methadone that had been prescribed over a specified period in Victoria. This proved of great immense value in tracing medical practitioners who, in ignorance of the Poisons Regulations, were prescribing methadone for drug addicts without notifying these cases to the Chief Health Officer and obtaining the necessary permit to prescribe.

#### *Drug Education.*

Professional officers of the Division gave 66 lectures or talks during the year on topics associated with drugs and poisons. Most of these talks, carried out in conjunction with the Health Education Section, were given to community groups. The balance, dealing with more specific sections of the poisons legislation, were given to groups such as nurses, health inspectors, detectives, industry representatives and armed services groups.



### *Control of Therapeutic Goods.*

Departmental officers attended further meetings of the National Therapeutic Goods Committee which was established in recent years under the Therapeutic Goods Act to exercise control, through the Commonwealth and State Departments of Health, over all therapeutic goods.

A number of inspections of manufacturers and wholesalers of therapeutic goods were carried out jointly by officers of the Division and officers of the National Biological Research Laboratories. A number of these inspections resulted in considerable follow-up activity by the Division to see that premises and conditions of manufacture were brought up to the standard required by the Code of Good Manufacturing Practice.

### *Drug Recalls.*

Thirty-one recalls of sub-standard drugs were put into effect during the period under review. Recalls were necessary for the usual reasons : faulty labelling or packaging, contaminated contents or failure to meet required standards of potency.

Appropriate follow-up investigations were made in co-operation with officers of the Commonwealth Department of Health and recommendations formulated for dealing with the situations that had brought about the necessity for each recall.

### *Destruction of Unwanted Poisons and Drugs.*

The number of requests received by the Division to destroy or dispose of stocks of unwanted drugs and poisons increased sharply during the year. Some 200 requests were received from University departments, schools, pharmaceutical chemists, private hospitals and industrial enterprises. The materials surrendered were burnt in municipal incinerators or, where this method of disposal was unsuitable, were buried under supervision in municipal tips.

### *Permits for Drugs of Addiction.*

The number of permits issued to medical practitioners by the Chief Health Officer to prescribe Schedule Eight amphetamines drugs and other drugs of addiction for periods in excess of eight weeks continued at much the same level as in the previous 12 months. A total of 714 permits were issued compared with 720 in 1971-72.

Of this number, permits to prescribe drugs of addiction for long-term treatment of medical conditions other than drug addiction increased appreciably from 388 permits for 334 patients in 1971-72 to 521 permits for 504 patients this year.

Permits to prescribe Schedule Eight amphetamine drugs, however, again decreased from 334 last year to 193 this year. Most were repeated permits for patients who have been treated with amphetamine drugs for many years. The only permits issued for the first time during the year were a small number of permits issued to paediatricians who claim that small doses of certain amphetamines are useful in the treatment of enuresis in children.

### *Drug Addiction.*

In the period under review, 383 people were notified to the Chief Health Officer as drug addicts. This number of new notifications, which was nearly three and a half times the number received in the previous year, was in line with the rapidly increasing number of illegal drug users notified to the Department since July, 1970. The following table illustrates this increase :—

1970-71	..	..	..	..	..	..	..	58
1971-72	..	..	..	..	..	..	..	110
1972-73	..	..	..	..	..	..	..	383

Seven hundred and sixteen permits were granted by the Chief Health Officer for the treatment with drugs of addiction of addicted patients.

Treatment of drug addiction was still largely in the hands of general practitioners, the treatment most favoured being methadone withdrawal, whereby methadone taken orally is substituted for the opiates and other drugs previously self-injected by the addict while simultaneous efforts are made to rehabilitate the patient socially.

The most encouraging development during the year was that the Department's newly formed Alcoholic and Drug Dependent Persons Branch opened limited facilities for assessment of addicts at the Pleasant View Assessment Centre, Preston. At the same time, a liquid methadone programme was started at the Alexandra Parade Clinic, Fitzroy. These facilities and others for the treatment of drug addicts are being slowly expanded as staff is recruited and plans are currently in hand to have all future addicts that are notified referred to the service for assessment.

*Licensing.*

Administration of the licensing system established under the Poisons Act continued during the year. The number of licences and permits currently in force are as follows :—

Licence to Manufacture Drugs of Addiction	..	..	..	14
Licence to Sell Drugs of Addiction by Wholesale	..	..	18	
Licence to Manufacture Poisons (Other than Drugs of Addiction)	..	198		
Licence to Sell Poisons (Other than Drugs of Addiction) by Wholesale	308			
Industrial Permits	..	..	..	1,318
General Dealers' Licences	..	..	..	270
Poisons Licences	..	..	..	4,321
Hospital Authorities	..	..	..	298
Educational, Advisory or Research Permits	..	..	..	293

The Division's licensing system was converted to computer operation late in 1972. Planning of the system was carried out by the Department's Management Information Section in consultation with the Accounts Branch and the Public Service Board's Electronic Data Processing Centre, which undertook to provide full computer facilities on a service bureau basis.

## POISONS INFORMATION CENTRE.

During the year, the Poisons Information Centre received 4,571 inquiries, 107 less than in 1971.

Once again the percentage of inquiries from medical practitioners and associated professional people declined, the figure being 36 per cent. compared with 39 per cent. in 1971 and 40 per cent. in 1970.

It is unfortunate that the original aim of the Commission to provide immediate information to doctors faced with emergency cases of poisoning is being steadily eroded by the increasing number of people who telephone the Centre for advice thereby taking up the valuable time of the staff and often preventing doctors from making contact.

The following table illustrates the wide range of calls attended to by the Centre:—

## STATISTICS OF INQUIRIES RECEIVED AT POISONS INFORMATION CENTRE, 1972.

						<i>Total for Year.</i>
1.	Salicylates, " Baby " and " Child "	..	..	..	15	
	Salicylates, " Adult "	..	..	..	51	
	Barbiturates and other " sleeping " medications	..	..	95		
	Laxatives	..	..	..	44	
	Cough medicines	..	..	..	81	
	Other internal and parenteral medications	..	..	1,045		
	<i>Sub-Total</i>	..	..	..	1,331	
2.	Camphorated oil	..	..	..	16	
	Mercurochrome	..	..	..	21	
	Potassium permanganate	..	..	..	1	
	Other external and topical medications	..	..	315		
	Hair preparations	..	..	..	53	
	Nail preparations	..	..	..	33	
	Perfumes..	..	..	..	64	
	Other cosmetics	..	..	..	96	
	<i>Sub-Total</i>	..	..	..	559	
3.	Bleaches	..	..	..	61	
	Furniture polish	..	..	..	80	
	Other disinfectants. Clean and polish agents, deodorants	..	703			
	<i>Sub-Total</i>	..	..	..	844	
4.	Kerosine	..	..	..	42	
	Turpentine	..	..	..	74	
	Other solvents and petroleum distillates	..	..	126		
	<i>Sub-Total</i>	..	..	..	242	



							<i>Total for Year.</i>
5.	Rodenticides	..	..	..	..	..	58
	Fly spray	..	..	..	..	..	48
	Naphthalene	..	..	..	..	..	40
	Other insecticides and related materials	..	..	..	..	..	188
	Weed killers	..	..	..	..	..	53
	Other pesticides	..	..	..	..	..	87
	<i>Sub-Total</i>	..	..	..	..	..	<u>474</u>
6.	Plants	..	..	..	..	..	<u>261</u>
7.	Bites and stings and their causes	..	..	..	..	..	<u>145</u>
8.	Adhesives	..	..	..	..	..	68
	Arts and crafts products	..	..	..	..	..	36
	Automotive products	..	..	..	..	..	10
	Candles	..	..	..	..	..	2
	Chalk	..	..	..	..	..	4
	Decorations	..	..	..	..	..	..
	Dyes	..	..	..	..	..	19
	Fertilizers	..	..	..	..	..	20
	Fluxes	..	..	..	..	..	10
	Inks	..	..	..	..	..	14
	Matches	..	..	..	..	..	18
	Novelty items	..	..	..	..	..	11
	Paints and allied substances	..	..	..	..	..	62
	Pet care	..	..	..	..	..	11
	Photographic products	..	..	..	..	..	5
	Pigments	..	..	..	..	..	6
	Possible causes of symptoms	..	..	..	..	..	6
	Rust control	..	..	..	..	..	6
	Other miscellaneous topics	..	..	..	..	..	367
	<i>Sub-Total</i>	..	..	..	..	..	<u>675</u>
	GRAND TOTAL	..	..	..	..	..	<u>4,571</u>

#### COMMUNITY WELFARE SERVICES.

There has been a further expansion in the community welfare field during the last twelve months. Many municipal councils have appointed welfare officers ; further new clubrooms for the elderly have been established and many established clubrooms have been enlarged ; existing services provided at, or through, clubs have been extended and new ones introduced ; and an ever growing number of householders have received assistance through Home Help Services. In addition, a pilot scheme to provide special home help assistance to families with mentally retarded children was introduced.

The expansion was due to the ever increasing awareness by councils of their responsibility in meeting the welfare needs of the community and the additional financial assistance available from Government sources.

Officers of the Community Welfare Section spent a considerable proportion of their time in visiting and advising councils of the various subsidies that are available. The continuing expansion of existing services and the proposed establishment of new ones will require the early appointment of additional field and administrative officers.

#### *Welfare Officers.*

Where municipal welfare officers are employed and assist in the provision of welfare services for the aged through a Senior Citizens' Centre, a subsidy equal to one-half of salary of such an officer is available.

During the past twelve months 15 municipalities were granted subsidies in respect of 19 welfare officers. All but two of these officers are employed as full-time welfare officers. Only one full-time officer and one part-time officer, however, devote all their time to the provision of welfare services for the aged. Seven devote 75 per cent. or more time to the aged and eleven varying amounts from 51 per cent. to 74 per cent. Eleven welfare officers are professional social workers.

The cost to the Government for the period ending 30th June, 1973 was \$17,828.

*Elderly Citizens' Clubs.*

The additional financial assistance now available towards the establishment of Elderly Citizens' Clubs has greatly assisted councils to proceed with projects much sooner than otherwise would have been possible and during the last twelve months 66 subsidies were granted by the Honorable the Minister of Health. These were in respect of the following :—

New clubrooms—Financial assistance by the Commonwealth and State .. .. .	11
New clubrooms—Commonwealth assistance (Previously approved by the State) .. .. .	17
Additions to existing premises—Commonwealth and State ..	1
Additions to existing premises—Commonwealth only (Maximum State subsidy already granted) .. .. .	5
Maintenance for new clubs .. .. .	10
First maintenance approval for an existing club.. .. .	1
Additional maintenance for existing clubs .. .. .	21

Of the above, 16 clubs had received no previous capital or maintenance subsidy.

There are now 229 subsidized clubs operating in 145 municipalities.

Eight new clubrooms were officially opened during the year and some six others are nearing completion.

Clubs now operating in permanent premises number 164.

Elderly Citizens' Clubs are established with the object of providing a pleasant meeting place so that the elderly may be brought together to enjoy the companionship of people their own age and to participate in activities and services which will assist in preserving their health. Under the terms of a subsidy a club must be open to all elderly persons of 60 years and over and those who through special circumstances have the need of a club designed for the aged.

The increase in the activities and services of the clubs can be seen by a comparison with last year's figures—

	1971-72.	1972-73.
Membership .. .. .	30,858	36,427
<i>Hot Meal Services—</i>		
Provided through subsidized clubs .. .. .	111	133
Services at clubrooms .. .. .	52	56
Municipalities providing meals on wheels as a service through their Elderly Citizens' Clubs .. .. .	80	93
Average number of meals served weekly—		
(a) at clubs .. .. .	6,673	7,012
(b) through meals on wheels .. .. .	14,783	17,459
<i>Handicraft Classes—</i>		
Clubs with service .. .. .	35	43
<i>Chiropody—</i>		
Clubs providing service .. .. .	83	92
Average number of treatments weekly .. .. .	2,176	2,669
<i>Summary of Subsidy Details—</i>		
Municipalities .. .. .	137	145
Clubs .. .. .	213	229
Capital and maintenance .. .. .	169	177
Capital only .. .. .	14	18
Maintenance only .. .. .	30	34
	\$	\$
Government expenditures during 12-month period ..	269,042	366,572
Capital—		
(a) Commonwealth .. .. .	11,184	229,777
(b) State .. .. .	43,552	136,795
Total Capital .. .. .	54,736	366,572
Maintenance—State only .. .. .	214,300	212,821
Balance of Capital Commitments—		
(a) Commonwealth .. .. .	78,651	272,212
(b) State .. .. .	172,994	164,736
Total .. .. .	251,645	436,948



*Home Help Service.*

This service provides household assistance to the aged infirm, to young families and to other necessitous cases where through ill health or infirmity the householder can no longer attend to everyday needs.

During the year an increasing number of householders were provided with home help and a number of aged and chronically ill persons received assistance throughout the whole year.

The assistance to the aged and infirm is usually given for only a few hours weekly and in most cases is sufficient to meet the needs. However, in a number of cases, the amount of help available is inadequate and if the elderly are to be maintained at home, further extension of the service will be necessary.

Due to the increasing amount of hourly assistance required by the aged some councils found the use of private transport for the home help to be essential and as a result a number of additional subsidies were granted in this respect.

It is pleasing to note that not only have three more municipalities established Home Help Services, but a number which had not been functioning for some years recommenced.

As indicated earlier in this report a pilot scheme of special home help assistance to families with mentally defective children commenced in three municipalities during the year and it is hoped that this service will soon be extended to all such families on a State-wide basis.

The growth of the services can be seen by a comparison of last year's figures with those of this year.

					1971-72.	1972-73.
Home help subsidies approved	..	..	..		178	181
Total number of services operating	..	..	..		157	169
Number of householders assisted—						
(a) Aged and infirm	..	..	..	..	7,934	9,150
(b) Young families	..	..	..	..	10,251	10,724
(c) Others	..	..	..	..	2,499	2,164
Total	..	..	..	..	20,684	22,038
Of the 9,150 elderly assisted—						
4,369 were given assistance for more than 3 months and						
2,918 were given assistance over a 12-month period.						
Eligible cases for whom no assistance was available	..				282	231
<i>Home helpers employed as at 31st December, 1972—</i>						
(a) full time	..	..	..	..	227	225
(b) part time	..	..	..	..	713	679
(c) hourly	..	..	..	..	1,049	1,237
Total	..	..	..	..	1,989	2,141
Number available to live in	..	..	..	..	..	58
Subsidies for private transport	..	..	..	..	178	181
Total cost of the Government for the Home Help Service for the 1972-73						\$
financial year	..	..	..	..	..	1,201,060
Contribution from the Commonwealth	..	..	..	..	..	390,272
Nett cost to the State	..	..	..	..	..	810,788

## INDUSTRIAL HYGIENE DIVISION.

*Cases of Occupational Disease.*

Eighty-five persons were medically reviewed and assessed for occupational disease.

The following list gives the number of cases diagnosed under eight main headings :—

A. Pneumoconiosis	..	..	..	..	..	13
B. Lead poisoning	..	..	..	..	..	26
C. Poisoning other than lead	..	..	..	..	..	4
D. Occupational asthma	..	..	..	..	..	3
E. Industrial dermatitis	..	..	..	..	..	2
F. Radiation overdose	..	..	..	..	..	1
G. Routine medical examination	..	..	..	..	..	2
H. No industrial disease	..	..	..	..	..	34

The sub-classification of these headings is as follows :—

A. Pneumoconiosis—						
Silicosis—						
New cases	..	..	..	..	..	10
Review	..	..	..	..	..	1
Asbestosis—						
New cases	..	..	..	..	..	1
Review	..	..	..	..	..	1
B. Lead poisoning—						
46 persons were examined for suspected lead poisoning—						
(i) No evidence of excessive occupational absorption	..					13
(ii) Excessive lead absorption without clinical evidence of poisoning	..	..	..	..	..	7
(iii) Lead poisoning diagnosed..	..	..	..	..	..	26
Within the group of 26 diagnosed as lead poisoning there were some who suffered more than one episode—						
(1) Single episode—						
Evidence of lead poisoning	..	..	..			17
(2) Two episodes—						
(a) Two separate episodes of poisoning	..	..				5
(b) One spell of absorption without poisoning, followed by a later separate episode of poisoning	..					2
(c) One individual, having changed his job, was further investigated and shown to have no evidence of absorption some time after the first episode of poisoning	..	..	..	..	..	1
(3) Three episodes—						
One man suffered absorption without poisoning then developed poisoning on two later separate occasions						1
C. Poisoning other than lead—						
Antimony	..	..	..	..	..	2
Arsenic	..	..	..	..	..	1
Methyl bromide	..	..	..	..	..	1
D. Occupational asthma—						
Tolunene di isocyanate	..	..	..	..	..	2
Solvent irritation	..	..	..	..	..	1
E. Industrial dermatitis—						
Melamine sensitivity	..	..	..	..	..	1
Non specific irritation	..	..	..	..	..	1
F. Radiation overdose	..	..	..	..	..	1
G. Routine medical examination—						
Two persons were medically examined as to their fitness for working in compressed air						
H. No industrial disease—						
1. Investigated and industrial disease excluded. No positive diagnosis	..	..	..	..	..	14
2. Investigated and industrial disease excluded—						
Positive diagnoses as follows :—						
Chronic obstructive lung disease	..	..	..			9
Anxiety reaction	..	..	..	..	..	3
Gastro-enteritis	..	..	..	..	..	2
Recurrent melancholia	..	..	..	..	..	1
Sarcoid	..	..	..	..	..	1
Psoriaform eczema	..	..	..	..	..	1
Duodenal ulcer	..	..	..	..	..	1
Pulmonary carcinoma	..	..	..	..	..	1
Left ventricular failure	..	..	..	..	..	1



*Lead.*

During the year, 2,821 reports of medical examinations made under the Lead Workers (Medical Examination) Regulations 1953, were received. Eighteen men were certified as "suffering from lead poisoning" by the examining medical officer who had forwarded the report.

There were 196 attendances at the Division by persons for evaluation of their lead exposure.

The following list gives the total number of biochemical tests made on persons to evaluate their lead exposure :—

Stippled cell counts .. .. .	562
Urinary coproporphyrin determinations .. .. .	517
Urinary lead determinations .. .. .	216
Blood lead determinations .. .. .	30
Haemoglobin determinations .. .. .	113

To assess the lead hazard in the working environment, 22 lead-in-air analyses were performed in 7 factories. Of these 10 were excessive and recommendations were made to reduce these levels.

Six lead analyses on paint used by spray painters were performed and one determination of lead in a soldering flux.

In a survey of lead released from the glazes of china crockery and cooking ware 141 items were tested and 16 items were found to release excessive amounts of lead. Thirty-three items were also tested for cadmium release, none of which released excessive amounts.

Following overseas reports of excessive lead levels in the paint on pencils, the paint on 47 pencils commercially available in Melbourne was analysed for lead content. This survey showed that the lead content of the paint on pencils constituted no problem in Melbourne.

To determine the lead levels in deciduous teeth of the normal population and to compare these levels with those in retarded children a large-scale survey in association with the Royal Dental Hospital and the Children's Cottages, Kew was commenced. 169 determinations of the lead content in teeth were performed and this work is continuing.

*Radiation.*

The numbers of licences issued to various sections of the community for the possession and use of irradiating apparatus and radioactive substances under the Irradiating Apparatus and Radioactive Substances Regulations for the year was as follows :—

Medical Radiology .. .. .	384
Dental Radiology .. .. .	354
Veterinary Radiology .. .. .	105
Industrial Radiology .. .. .	200
Chiropractic Radiology .. .. .	92
Educational and Research .. .. .	76
Government Bodies .. .. .	65
Total .. .. .	1,276

Medical Radiology can be further subdivided as follows :—

Radiologists  
X-ray Clinics  
General Practitioners  
Hospitals

The use of radioactive substances in medicine, research and industry continues to gradually increase.

The Commonwealth Radiation Laboratory now regularly provides the Division with film badge reports from some 268 installations where people are exposed to ionizing radiation. The film badge reports indicate that the general level of radiation dose received by these people is well below permissible levels.

During the year, the Commonwealth Radiation Laboratory discontinued certain services in this field which had previously been freely available. This change of function occurred in three areas, namely the disposal of low level radioactive waste from hospitals and research organizations, X-ray protection design in the medical and industrial field, and lastly general radiation protection problems. The workload in these areas previously carried by the Commonwealth has now been directed to this Division.

Accordingly, an alternative low level waste disposal service has now been organized ; this special service involves a regular once-a-month circuit of establishments by an industrial waste collection agency and the ultimate disposal of the waste under controlled conditions.

The services of a Scientific Officer (Physicist) was obtained to ease the workload in the general radiation area.

Special interest has been paid to the radiation safety practices used by veterinarians ; the particular hazard is presented by virtue of the proximity of operators to the primary beam, necessitated by the problem of holding the animals in position for the particular X-ray. Various recommendations related to reduction of scattered radiation and the wearing of protective clothing have been made. The possibility of a short course on radiation protection in veterinary practice is being discussed with University authorities.

The Division gave assistance to the Non-Destructive Testing Association in the presentation of a seminar on Radiation Protection in the Non-Destructive Testing field, followed by a course on radiation protection problems.

#### *Pesticides.*

##### *Household Insecticides Regulations 1966.*

A draft consolidation of these regulations was prepared by the Division and approved in principle by the Commission at its meeting on May 15th, 1973 for circulation to municipal councils and trade organizations.

This draft incorporates all amendments to the original regulations.

The only substantial alteration, made at the request of the trade, was a redefinition of "space-spray" or "fly-spray" to include the fact that these are also suitable for killing insects by direct spraying.

It is intended that the proposed regulations become operative on 1st January, 1974.

##### *Pest Control Operators Regulations 1972.*

These Regulations have now been in operation for one year and during the year the Commission granted registrations and issued licences as follows :—

Registrations of firms	..	..	..	..	..	81
Class I. operator's licence	..	..	..	..	..	0
Class II. operator's licence	..	..	..	..	..	214
Class III. operator's licence	..	..	..	..	..	72

During the year the Division investigated a number of complaints relating to the unnecessary application of pesticides by certain firms and appropriate warnings were given.

More recently such complaints diminished in frequency and it is believed that the warnings have been heeded.

#### *Hydrogen Cyanide.*

Following the death of a man caused by him entering a flour bin which had not been adequately ventilated after fumigation with hydrogen cyanide, tests were conducted to measure the rate of dispersion of this gas from the bin with the manhole open. This involved two series of tests—one in which liquid was added to the empty bin and one in which it was added to the bin containing 400 lb. of flour. These tests involved 22 analytical determinations and they indicated a much slower rate of dispersion of the gas from the space than had been expected by the pest control firm involved.

#### *Arsenic.*

Twenty-four people were tested for suspected arsenic poisoning. This involved a total of 32 analytical determinations, 24 of which were on urine, 4 on hair, 3 on blood and 1 on gastric juice. Two cases of arsenic poisoning were confirmed but they were not occupational in origin.

#### *Methyl Bromide.*

Blood bromide determinations were carried out on 3 persons and 1 of them, a timber inspector, was diagnosed as methyl bromide poisoning. His exposure to the gas resulted from the bursting of a rubber seal during the opening of a can of methyl bromide.

#### *Organo-phosphorus Compounds.*

The estimation of blood cholinesterase levels in 124 people involved 180 analytical determinations. Five cases of organo-phosphorus poisoning were confirmed and two others were shown to have depressed cholinesterase activity.



### *Mercury.*

Ninety people were tested for mercury absorption. Four people showed excessive mercury absorption but did not show symptoms of mercury poisoning.

Following a spillage of about 200 lb. of mercury from a ship berthed at Appleton Dock, 138 determinations of mercury in mud were carried out in two stages, first to pinpoint the site of the spillage and the second to confirm that the removal of mercury had been as complete as possible. The level of mercury in mud remaining after the recovery operation was less than 1 p.p.m.

The collaborative study on the level of mercury in fish which commenced last year is continuing and has been extended to species of fish other than shark. Sixty-seven more analyses of mercury in fish were carried out.

This Division has become involved in a research project being conducted by the Department of Medicine, University of Melbourne, at St. Vincent's Hospital. This project is designed to check the body burden of methyl mercury which people in this State may have accumulated as a result of eating fish containing methyl mercury. This Division has been responsible for the analytical determinations involved and for this purpose has been assisted by a Research Assistant who is employed by the University but attached temporarily to this Division.

### *Carbon Monoxide.*

At the request of the Police Department, two accidents involving fatal gassings in the general community were investigated. A report to the coroner was made in relation to the deaths of two boys in a tunnel at Greensborough. Investigation revealed that the deaths were due to carbon monoxide gas from residual blasting fumes. A further report is being prepared in relation to an investigation into the fatal gassing of a man in a caravan. The investigations have revealed that the man died from carbon monoxide poisoning, the gas emanating from a poorly adjusted L.P. gas cooker.

The Division was requested to conduct a survey into the effects of carbon monoxide from car exhausts on the health of traffic policemen. This has involved an investigation into a suitable method for carboxyhaemoglobin in blood. The survey now commenced tests for carbon monoxide in alveolar air and for carboxyhaemoglobin in blood simultaneously on policemen who have just completed traffic duty.

### *General Chemicals.*

Atmospheric determinations for solvent vapours were carried out on 64 occasions.

The solvents investigated included monochlorobenzene, trichloroethylene, tetrachloroethylene, styrene monomer, and solvent mixtures.

Atmospheric determinations for other contaminants numbered 36 and the contaminants included cadmium oxide, formaldehyde, hydrogen chloride, ozone, toluene diisocyanate, plasma cutting fumes and welding fumes.

Recommendations were made to some nine factories to reduce the atmospheric concentration of solvent or contaminant in the working environment, generally by means of local exhaust ventilation.

### *Other Scientific Activities.*

Extensive laboratory work was undertaken to commission new analytical equipment, in particular the newly acquired atomic absorption spectrophotometer.

Noise level assessments in relation to noise induced deafness were undertaken in some 30 factories and appropriate recommendations made.

The staff has maintained the waterfront advisory service with respect to occupational health. Some 20 inspections of ships were made. Gas-free certificates of previously fumigated ships were issued on two occasions.

Members of the staff attended and contributed to a number of conferences and meetings on various aspects of occupational health.

In addition to analytical work previously mentioned, the following tests were carried out :—

Cadmium in urine determinations	..	..	..	..	5
Gravimetric dust determinations	..	..	..	..	16
Asbestos-in-air determinations ..	..	..	..	..	7
Audiometric examinations ..	..	..	..	..	27

## ENGINEERING DIVISION.

### *Sewerage.*

New sewerage systems at Beaufort, Nathalia and Numurkah were completed or brought into partial operation during the year. Lagoon treatment was adopted in each case.

Construction of new sewerage systems commenced at Hastings, Heywood, Kilmore, Melton, Merbein, Myrtleford, Robinvale, Serviceton and Sunbury.



New Sewerage Authorities were constituted for the towns of Edenhope, Inverloch, Lakes Entrance and Rainbow and two new schemes at Heyfield and Riddell's Creek were approved.

There are now 113 Sewerage Authorities constituted in Victoria under the Sewerage Districts Act and 88 of these are in operation.

One hundred and nine inspections of sewage treatment works were made during the year and samples taken for analysis at the Health Laboratories. The Sewerage Authorities were advised of the test results and comment was made on the operation and effectiveness of treatment.

The only application for the establishment of a nightsoil depot involved the relocation of an existing depot at Melton.

#### *Septic Tank Installations.*

Plans for 162 new installations and 15 alterations to existing systems were examined. A total of 264 septic tank systems were inspected.

A multiple service septic tank scheme was proposed at Koondrook.

#### *Offensive Trades and Garbage Depots.*

Plans of three new abattoirs and extensions to 34 existing abattoirs were examined and approved.

Sites for eight new garbage depots and extensions of two existing depots were inspected.

The Commission accepted the delegation as the protection agency under the Environment Protection Act for control of the discharge of all wastes to land. A new section "Land Waste Management Section" was formed for licensing purposes.

#### *Stream Pollution and Drainage.*

Fifty-seven inspections were made during the year in connection with drainage complaints, stream pollution and trade-waste discharges.

Thirty-two approvals for trade-waste treatment and disposal to streams were issued after consultation with other authorities.

#### *Water Supply.*

Twenty-one town water supply systems were inspected to examine treatment methods and assess water quality. Chlorination of supplies was recommended in a number of cases.

#### *Swimming Pools.*

Fifty-five inspections of public swimming pools were made. Thirty-six samples of water were taken for bacteriological examination from pools temporarily exempt from certain provisions of the Swimming Pool (Water Purification) Regulations.

Lectures were delivered by officers of the Department at the initial Swimming Pool Superintendents' Training Course conducted by the Footscray Institute of Technology.

#### *Public Buildings.*

Approval of plans and specifications for public buildings examined during the year totalled 1,184, as shown in the following table :—

Class of building.	Sketch plans for approval in principle.	Working drawings for approval.	Electrical installations.	Mechanical ventilation installations.	Totals.
Institutions .. .. .	..	4	..	..	4
Public Buildings (under Public Building Regulations) ..	48	575	447	42	1,112
Tertiary Education Buildings .. .. .	2	33	26	20	81
Schools .. .. .	4	165	135	18	322
Pre-schools and Infant Welfare Centres .. .. .	46	128	74	12	260
Amusement Structures/Tents .. .. .	..	..	4	..	4
Child Minding Centres .. .. .	6	68	57	7	138
Mentally Retarded Centres .. .. .	8	15	9	..	32
Elderly Citizens' Clubs .. .. .	25	43	28	..	96
Exhibitions/Seating Plans .. .. .	..	14	..	..	14
Totals .. .. .	139	1,045	780	99	2,063



There were 6,256 day inspections of public buildings during the year and 95 inspections were made at night during public occupation of the buildings.

Seventy Certificates of Safety for Amusement Park Structures were issued, renewed or transferred.

Twenty-seven new Child Minding Centres were registered, registration was renewed for 276 others and 18 were transferred.

#### *General Interest Items.*

The Environment Protection Authority delegated certain powers under the Environment Protection Act to the Melbourne and Metropolitan Board of Works, State Rivers and Water Supply Commission, Latrobe Valley Water and Sewerage Board and the Dandenong Valley Authority in respect of the licensing of discharges of wastes to water in various areas of the State. The requirement for a licence to discharge wastes, together with the supervision of the conditions of the licences, should do much to support the Commission's activities in its endeavour to minimize pollution of surface and underground waters.

A Bill to amend the Sewerage Districts Act was drafted during the year and reached the stage of second reading in Parliament. The Bill will provide statutory powers for local Sewerage Authorities to order private sewerage schemes for new housing subdivisions within their districts.

The Board of Works in certain zoned areas now requires subdividers to provide reticulation sewers and to finance the cost of connection to its sewerage system or to another treatment facility to be operated by the Board.

This decision will assist the Board in its endeavours to overtake the backlog of sewerage to serve housing development in recent years. Drainage from unsewered housing areas continues to be the major source of pollution of surface waters within the metropolitan area.

Interest is now focussing on waste-water re-use. The Commission of Public Health has given preliminary consideration to the conditions which should apply to the use for irrigation purposes of re-conditioned water from the Board of Works Purification Plant at Carrum.

The Department was represented on an overseas mission which recently studied all aspects of waste-water treatment for re-use in South Africa, Israel, Europe and the eastern and western States of America. The report of this study group should enable guide-lines to be formulated for safe-guarding public health in connection with waste-water re-use for specific purposes, such as the irrigation of certain pastures, park-lands, golf courses and fruit trees.

The problem of the disposal of liquid industrial wastes within the metropolitan area was further studied by an Inter-Departmental Committee on which the Department was represented. A proposal was put forward for the establishment within the western suburbs of an industrial waste treatment complex which would cope with the problem.

#### AIR POLLUTION CONTROL.

The normal Air Pollution Control programme continued to November, 1972. The activities covered by this programme included monitoring for dust-fall, smoke density and sulphur dioxide concentrations, stack sampling and special investigations concerned with the measurement of air pollution in specified areas.

A large proportion of the work of the Clean Air Section was taken up with the review of plans and specifications for new plant and equipment to enable recommendations to be made to the Commission of Public Health for their approval, pursuant to the Clean Air Regulations 1965. Site inspections were carried out in response to complaints received from the general public, in addition to those required in connection with new installations.

Following the proclamation of certain sections of the *Environment Protection Act* 1970, the administration of the Clean Air Act was transferred to the Environment Protection Authority on the 5th December, 1972, by Act of Parliament No. 8324. As from that date the whole of the staff of the Clean Air Division was transferred to the Environment Protection Authority and ceased to be responsible to the Health Department.

#### GENERAL ITEMS.

##### *Health Education Centre.*

The activities of the Health Education Centre increased considerably in 1972, both in the diversity of public health matters dealt with and the volume of work undertaken.

Although, as in previous years, most of the activities of the Centre were concerned with drug education, more requests were received from the public for information on other topics indicating either an increasing awareness on the part of the public of the Centre's functions or an increasing



interest in public health in general. The topics covered included infectious disease control, nutrition, environmental pollution, population control, the work of the Department, smoking and health, sex education and venereal disease.

In all 620 community groups were visited and the total number of persons reached estimated at approximately 34,250.

Much emphasis was placed on involving secondary schools in particularly the drug education programme, in its broadest sense, to include tobacco and alcohol, and principals of all secondary schools in the State have now been informed of the Centre's programme. The response on the part of the schools was encouraging and speakers now discuss this subject with students, staff and parents.

In 1972 the Drug Education Advisory Committee initiated a drug conference for secondary teachers which was held at Monash University in April-May, 1973 and was attended by 440 teachers. Information about alcohol, tobacco and other drugs was given during the two days of the conference, one aim of which was to encourage teachers to return to their own schools and initiate health education programmes. This conference was of particular significance in that it was planned jointly by the Departments of Health and Education and the Victorian Foundation on Alcoholism and Drugs of Dependence.

In May, 1973 a three-day residential seminar was held for secondary science teachers at Marysville.

The programmes of training for community service groups continued and speakers who have been trained in these programmes contributed materially to the success of the total programme of drug education.

Liaison has been maintained with voluntary agencies working in the field on health education, in particular the Victorian Foundation on Alcoholism and Drugs of Dependence and the Anti-Cancer Council of Victoria.

As in previous years, departmental speakers have assisted the latter body in its public education programme, aimed at informing the public of the dangers of cigarette smoking and of the value of breast self-examination for early detection of breast cancer in women and of the "cell" test in the early diagnosis of cancer of the uterine cervix. Twenty talks were given by departmental speakers as part of this programme.

The Geelong Drug Information Service was assisted again by the Health Education Centre for the purposes of delivery of health education talks in relation to drugs in Geelong and surrounding areas.

#### *Civil Defence.*

During the year the General Health Branch was made responsible for the control of medical services during any civil emergency. Discussions have continued to devise an organization which will function in all emergencies. Ultimately, this will involve the provision of supplies, emergency hospital accommodation and medical manpower of all kinds instead of the present ad-hoc arrangements which operate on a voluntary basis.

#### *Pest and Rodent Control.*

As in previous years pest and rodent control involved advice and assistance to Melbourne Harbour Trust personnel engaged in this work throughout wharf areas, inspections of Government-owned premises including schools, hospitals and penal institutions and the provision of advice on control measures to management personnel. In addition, many householders were assisted in the alleviation or eradication of particular problems.

#### *Rat Infestation on the Waterfront.*

Rat infestation on the wharves remains at a low level due to the continuing programme of inspection and baiting of those areas susceptible to infestation. There were, however, periodic rat infestations in inaccessible areas and following the demolition and alteration of buildings and shipping berths.

#### *Rat Infestation in the State.*

There was a considerable reduction in the number of inspections by departmental officers of rat infested drains and premises and this was attributed to more and more municipal councils entering into contracts with reliable pest control firms whose services are available at short notice and continue until such time as the infestations are eradicated.

A large scale survey of the city area was undertaken by the City of Melbourne following publication of a news item referring to a plague of rats. The results of this survey indicated that the report was unfounded.



*General Pest Control.*

Other activities were as follows :—

- Entry of birds into bakeries.
- Mites in wholesale and retail wine distributors' premises.
- Insects in various dried fruit products.
- A survey of the use of arsenic by pest control firms.
- Inspections of several poultry farms concerning rat control and fly breeding.
- Assistance in inquiries leading to legal proceedings.

Satisfactory liaison with local government and State and Commonwealth Departments was again maintained.

*Liquor Inspection.*

Premises Inspected :

Hotels	..	..	..	..	..	..	..	364
Licensed Grocers	..	..	..	..	..	..	..	63
Sporting Arenas (Visits)	..	..	..	..	..	..	..	18
Bottling Establishments (Visits)	..	..	..	..	..	..	..	28
								<hr/> 473 <hr/>

Of the 364 hotels visited, seven did not have a denaturing substance in the drip-trays as required by the Cleanliness (Food, Drugs and Substances) Regulations. A warning was given to the licensee in each case and follow-up inspections were made.

Seven licensed grocers were detected selling wine with labels that did not comply with the requirements of the Food and Drug Standards Regulations. Sales were stopped until correct labelling was provided. The sale of a particular brand of Scotch whisky bottled in South Australia was halted in Victoria until the labels were brought into conformity with the Victorian regulations.

Of the sporting arenas visited, one was found to be selling rum of a strength not in compliance with the regulations. Investigation showed that approximately four dozen bottles of this rum had been bottled incorrectly by the wholesaler. All bottles were recalled and a warning was given to the company to exercise more rigid control procedures in its operations. Cleanliness was of the required standard.

Opened bottles of spirits tested at above premises—

Scotch Whisky	..	..	..	..	1,078
Australian Whisky	..	..	..	..	876
Imported Gin	..	..	..	..	187
Australian Gin	..	..	..	..	381
Imported Brandy	..	..	..	..	52
Australian Brandy	..	..	..	..	631
Imported Rum	..	..	..	..	304
Australian Rum	..	..	..	..	231
Schnapps	..	..	..	..	20
					<hr/>
Total	..	..	..	..	3,760 <hr/>

Of these the following were found to be adulterated :—

Scotch Whisky	..	..	..	..	26
Australian Whisky	..	..	..	..	2
Imported Gin	..	..	..	..	3
Australian Gin	..	..	..	..	1
Australian Brandy	..	..	..	..	3
Imported Rum	..	..	..	..	1
Australian Rum	..	..	..	..	9
					<hr/>
Total	..	..	..	..	45 <hr/>

Testing of draught beer was carried out at all hotels visited for spirit testing namely 364. No cases of adulteration were found.

A prosecution taken under the Goods Act for adulteration of Scotch whisky was successful as also was one under the Consumer Protection Act for adulterated Scotch whisky.

*Free Travel for Pensioners and Persons of Similar Limited Means.*

There was again a large increase during the year in the number of applications for free travel to public hospitals. A total of 31,379 applications were received, an increase of 2,642 over the previous year.

Of the 31,379 applications, 129 were rejected as the persons concerned failed to qualify as "persons of similar limited means to a pensioner", their mode of transport was other than State owned or they were not attending approved institutions.

The expenditure on free travel amounted to \$142,945 for the year, an increase of \$15,448.

#### *Cemeteries.*

There are on record 756 public cemeteries and private burial grounds in Victoria. During the year action was taken to provide for the establishment of a public cemetery at Nelson and a private burial ground at a Scoresby religious seminary.

Following the granting of a \$9,000 loan by the State Treasury a new lawn cemetery area was brought into operation at Benalla. During the year maintenance grants totalling \$14,000 were allocated to a number of cemeteries whose income is insufficient to meet the cost of normal maintenance.

The number of medical practitioners licensed by the Honorable the Minister of Health to sign Confirmatory Cremation Certificates increased by 8 to 320.

It is now becoming more and more difficult to interest members of the public in becoming trustees of public cemeteries and, as a result, it has been necessary for the Commission to request a number of municipal councils to assume trusteeship of cemeteries.

### TRAINING OF HEALTH INSPECTORS.

#### ROYAL SOCIETY OF HEALTH, VICTORIA BOARD OF EXAMINERS.

During the year the Victoria Board of Examiners adopted the following policies in relation to training and examination of health inspectors :—

##### *(a) Educational Qualifications for the 1974 Course :*

The Educational Qualifications for the 1974 Course of Training will be the Higher Schools Certificate. Special consideration may be given to persons over the age of 25 years whose qualifications are acceptable to the Board.

##### *(b) Entrance Examination and Interviews with Prospective Students :*

The Board interviews all prospective students and is given consideration to the introduction of an entrance examination prior to such interviews.

Because it is essential that a candidate possess an adequate knowledge of the English language in order that he may be able to express himself intelligently both orally, and in writing, the Board decided to conduct a half-hour written entrance examination with all prospective students in conjunction with the interviews.

It is anticipated that during the next twelve months the feasibility of a full-time diploma course in environmental health will be investigated by the Board, the Commission of Public Health, and other interested parties.

##### *(c) Regulations Relating to Inspectors :*

As directed by the Commission of Public Health, the Board prepared draft Regulations Relating to Inspectors providing that a person possessing an overseas qualification in health inspection, irrespective of whether or not the applicant possesses a certificate from the Royal Society of Health, be required to satisfactorily complete certain subjects of the Victorian Training Course in relation to the Victorian law.

##### *(d) Pollution Control Course :*

The Pollution Control Course previously conducted at the Swinburne Institute of Technology will now be conducted by the Board, in conjunction with the William Angliss College of Catering and Food Studies.

The course will be available to practising Health Inspectors on a priority basis.

##### *(e) Cadetships :*

In an endeavour to offer some career structure to school leavers the Commission, on the recommendation of the Board, has encouraged metropolitan municipalities to employ Cadet Health Inspectors.

#### *Meat Inspector's Examinations.*

In October the annual examination for the Commission's Certificate of Competency as a Meat Inspector was conducted at the William Angliss College of Catering and Food Studies, 555 Latrobe Street, Melbourne. A record number of 151 candidates entered for the examination. Of these 58 were students of the William Angliss College of Catering and Food Studies, 43 were students of the Bendigo Institute of Technology, 2 were students of the Yallourn Technical College, 35 were



students of the Gordon Institute of Technology, Geelong, and 13 were students who had attended one of the special full-time courses of study for meat inspection arranged by the Department of Primary Industry in conjunction with the William Angliss College of Catering and Food Studies.

Sixty candidates passed the examination which is the highest number ever to do so.

Also during the year three separate examinations were held for students engaged in the special Commonwealth Department of Primary Industry full-time course.

Thirty candidates out of 37 passed the first of these examinations, 24 out of 29 the second, and 16 out of 36 the third.

#### LEGISLATION.

During the year the *Health (Amendment) Act 1972* was given Royal Assent. This Act includes —

- (a) The extension of the regulation powers in respect of dangerous trades and irradiative apparatus to include dangerous substances. This led to the recent consolidation of regulations for the medical examination of lead workers.
- (b) The removal of the limitation in the definition of a “temporary public building” where the provisions of the Act previously applied only to those buildings which accommodated 50 or more persons.
- (c) An increase in the maximum fee that may be prescribed for the examination by the Commission of plans and specifications of temporary public buildings.
- (d) The exemption of tents or marquees less than 1,000 square feet in area which do not provide seating or standing accommodation, from the provisions of the Act in relation to temporary public buildings.
- (e) The inclusion of special provisions in the Act dealing with amusement structures including approval of plans and specifications, registration, examinations by qualified engineers, power to inspect and close, etc.
- (f) Details of evidence that shall be *prima facie* evidence in any proceedings in respect of contraventions against those provisions of the Act dealing with child minding centres.
- (g) The prohibition of the advertising by proprietors of boarding houses or common lodging houses that such premises are equipped so as to be suitable as nursing or convalescent homes.
- (h) A requirement that the proprietor of any food premises shall ensure that such premises are maintained at all times in a clean and sanitary state.
- (i) Power to the Chief Health Officer to order the proprietor of a food premises to bring such premises to a clean and sanitary state within a specified time.

#### *Regulations.*

As well as the Regulations referred to elsewhere in this report, the following were approved :—

##### *Registration (Health Acts) (Amendment) Regulations 1972 No. 2.*

These regulations provide that any application for registration or renewal of registration or transfer of registration of premises under the *Health Act 1958* may be signed by a person authorised by the Company in that behalf and need not be under the common seal of the Company. The regulations also provide for a number of applications for registration, renewal of registration, installation or removal of food vending machines to be made on a single form instead of separate ones.

##### *Food Vending Machines (Amendment) Regulations 1972.*

These regulations provide that a food vending machine is deemed to be installed when the proposed location has been approved by the Council and the first servicing of the machine with food has been undertaken. There are also requirements for full details of any machine that is removed from its site to be provided immediately to the Council and for the Council to amend the records.

##### *Household Insecticides (Amendment No. 2) Regulations 1972.*

These regulations include a number of additions and deletions of chemicals in the schedule to the Regulations. In regard to household insecticides, the Commission also recommended a draft consolidation of the regulations.

*Cigarettes Package Labelling (Amendment) Regulations 1972.*

These regulations contain special provisions for the labelling of circular or oval shaped cigarette packages and the acceptance up to 1st July, 1973, of warning statements on imported cigarettes provided such statements comply with the requirements of the law in the country of manufacture and are in terms approved by the Chief Health Officer.

*General Sanitary (Amendment) Regulations 1973.*

These regulations provide for the lighting of fires in a tip in a rural area for the burning of grass or undergrowth or rubbish subject to stringent conditions. The Regulations also authorise the Commission to determine that the face and flanks of a tip shall be covered at specified intervals less frequent than those already prescribed.

*Rat and Mice Destruction Regulations 1973.*

These regulations consolidated the requirements applicable to the destruction of both rats and mice.

The Swimming Pools (Water Purification) Regulations 1969 were amended to grant a further exemption from compliance until April 1974, in respect of a swimming pool at Zumstein's Halls Gap.

Letters for meat inspection purposes were allocated to the City of Springvale and the Shires of Seymour and Upper Yarra. In addition the Cobram Sewerage Authority treatment works were added to the list of such works on which cattle are permitted to graze. These arrangements were made by appropriate amendments to the Meat Supervision Regulations and the Nightsoil and Sewage (Contamination of Land) Regulations respectively and, in the event of failure to comply, to order the closure of the premises until such time as the premises are brought to a satisfactory state.

In conclusion the Commission has much pleasure in reporting that the health of the people of Victoria remains at a high level due in no small measure to the continuing co-operation afforded to the Department of Health by municipal councils.

Respectfully submitted,

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} Members of the Commission.

A. T. GARDNER, Secretary,

Melbourne, 18th September, 1973.





